SERVICE MANUAL

COLOUR TELEVISION 90°

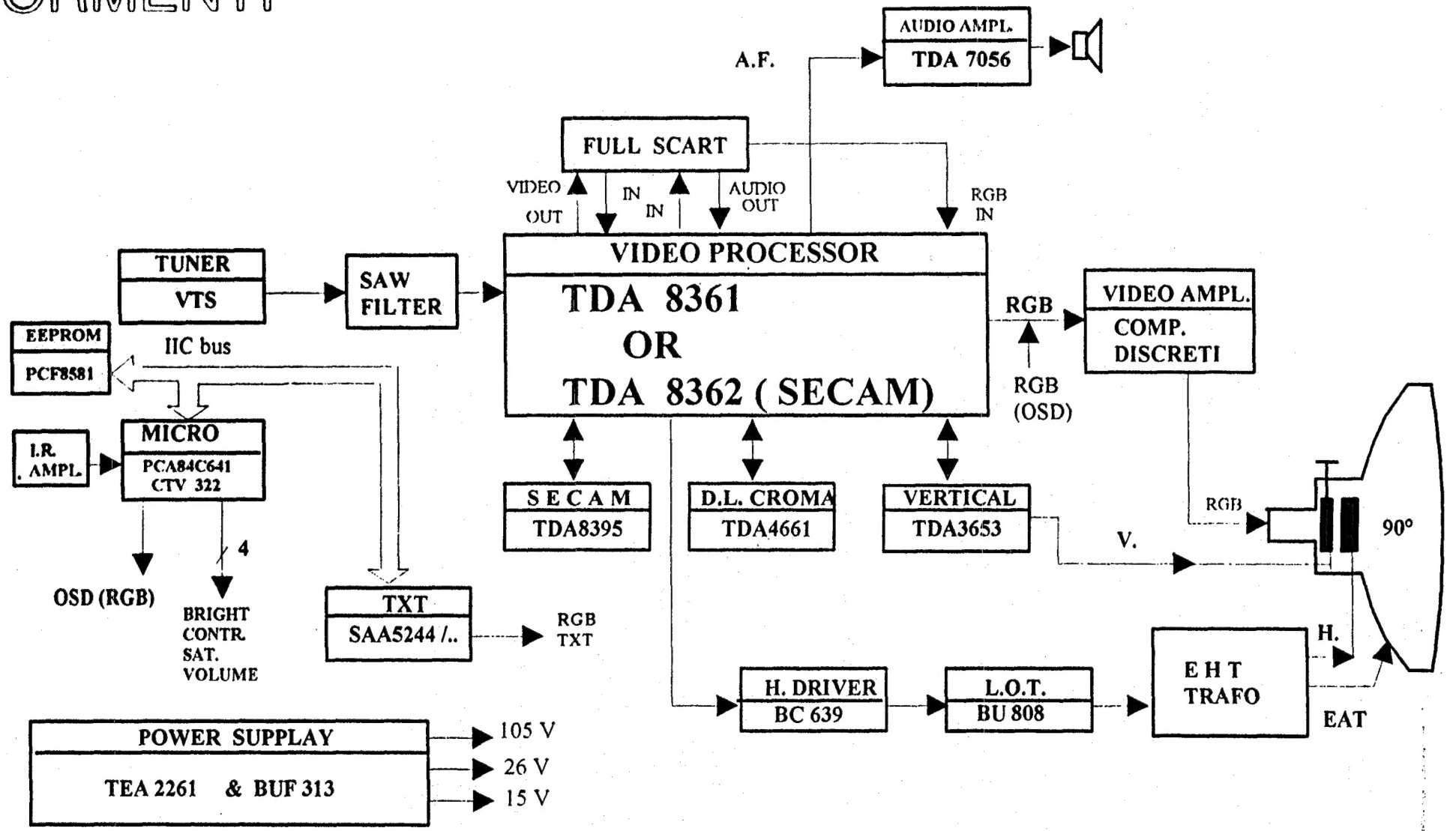
CHASSIS F-10

CHASSIS F-12

CHASSIS F-14

INDEX

FORMENTI



F10 BLOCK DIAGRAM

CHASSIS F-10 INTRODUCTION

The television is built around a high-volume integration integrated circuit TDA 8361/2, a new processor for PAL and NTSC system television.
This TDA 8361/2 processor combines all the small signal functions required of a colour television receiver, including operation of an external video and audio of a S-VHS (separate Luminance and Chrominance).
Processor TDA 8361/2 is a video processor containing functions handling HF, sound, Horizontal and vertical synchronisation, PAL/NTSC decoding, and RGB control. It was implemented using BIMOS technology, which combines MOS and bipolar methods. The bipolar technology is used for high-frequency signal processing (ex. video signals) and the MOS technology is used in those parts handling digital signals.
In addition it uses an integrated delay line TDA 4661, an audio output stage TDA 7056, a vertical output stage TDA 3653B, and a horizontal output stage with Darlington BU 808D.
The power-supply unit is of the flyback type and controlled by the TEA 2261 integrated circuit.

Principal functions common to both processor version TDA 8361/2 are :

-symmetric IF amplifier directly coupled to surface-wave filter
-FM sound multistandard demodulator, not needing regulation
-chroma trap and integrated band-pass filters
-integrated luminance delay line
-PAL/NTSC automatic decoder
-self-regulating horizontal oscillator
-low dissipation (about 700 mW)
-possibility of selecting an external A/V source

Functions specific to TDA 8362 :

-multistandard IF circuit for positive and negative modulation
-simple interface with TDA 8395 (SECAM decoder) for PAL and SECAM multistandard applications.

CHASSIS F-10 ALIGNMENTS

38.9 MHz and AFC (TP2)
Connect a 38.9 MHz intermediate-frequency generator to the tuner's IF output pin 17 and adjust the core L3 so as to obtain 4 V. at pin 44 of TDA 8361/2 (in order to obtain a voltage of about 2.5 V. at the terminals of divided R 129 and R 128 - pin 9 of tuning integrated-circuit).

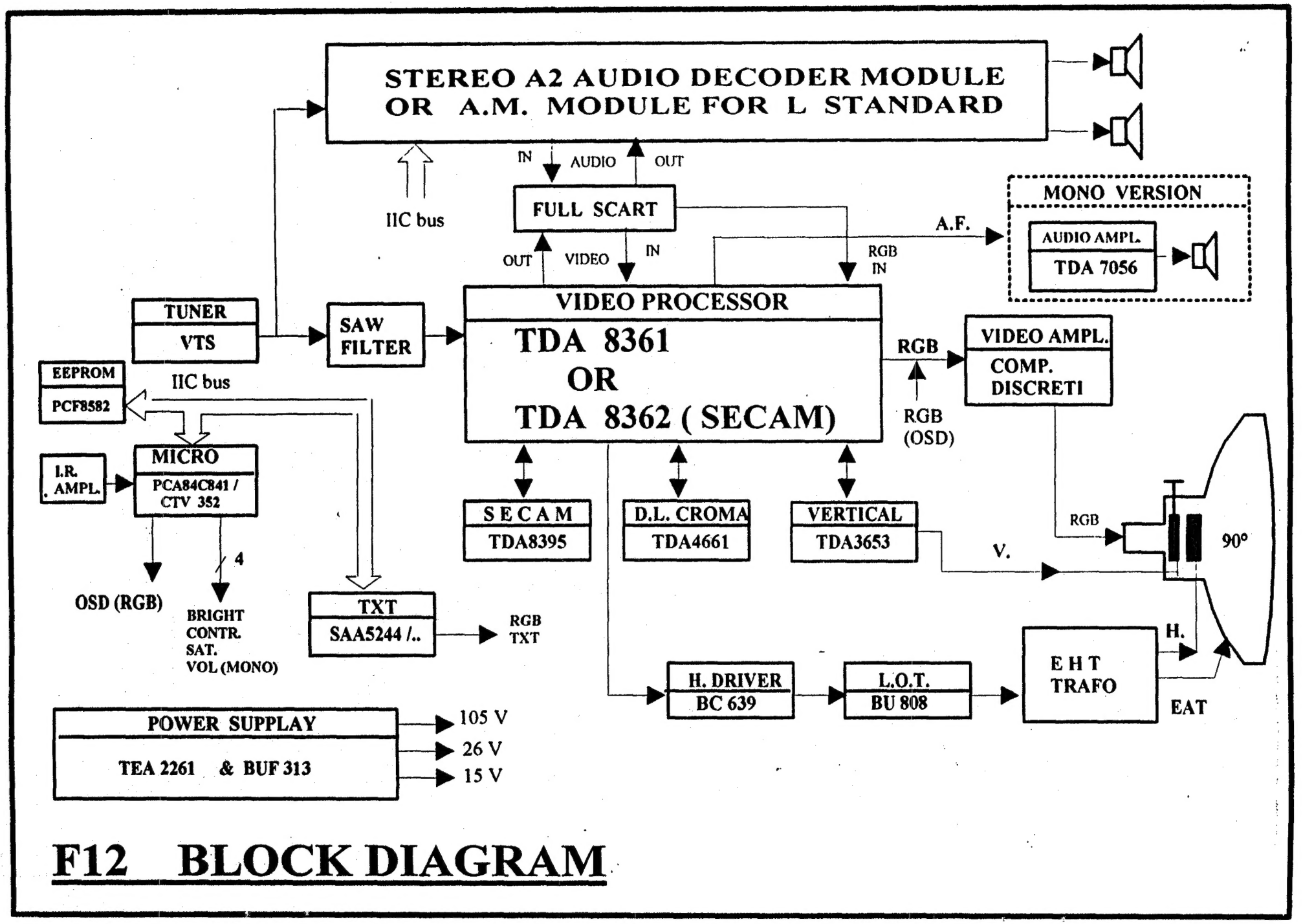
POWER SUPPLY (TP3)
Measure the direct voltage at the terminals of capacitor C 111 and potentiometer VR 9 so as to obtain a voltage of 105 V (110 V for 21").

AGC (TP1)
Apply a 60dBuV (+/- 1 dB) RF signal, band III, channel 10-to-12, and adjust potentiometer VR7 so as obtain a voltage of about 8 V at tuner pin no. 5 . (This voltage depends on the tuner used; so check on the latter's characteristics.)

WHITE SETTING
-Tune to a channel with colour test-pattern signal
-Position level potentiometers RL, GL, BL, and gain potentiometers RG and BG on the CRT socket, locating centrally
-Adjust the TV receiver to maximum brightness, minimum colour and contrast
-Switch the TV to AV using the corresponding button on the remote control
-Adjust potentiometer G2 (EHT transformer) to obtain a barely visible screen. The screen usually appears with a predominant colour hue.
-Adjust the level potentiometers of the order two cathodes that are different from the predominant colour in order to obtain the white screen. If, for example, the predominant colour of the screen is red, the potentiometers of the blue cathode BL and the green cathode GL are adjusted.
-Return to the TV mode with the appropriate remote-control button.
-Check that the hue of the colours of the colour test-pattern picture are correct. If necessary adjust the potentiometers RG-BG.

VERTICAL CENTERING
-Adjust VR 10 (VA) for proper vertical height
-Adjust VR 11 (VL) for proper vertical linearity
Cut/solder the jumpers JS22 and/or JS23 in order to obtain the right vertical geometric centering between CRT and signal. (for example, use a test-pattern signal)

4.43 MHz SETTING
-Apply a PAL colour-bar signal to the antenna
-Adjust pin 26 of TDA 8361/2 to the voltage of 8 V. (in these conditions the phase detector and the killer circuit are disabled)
-Set variable capacitor 2/20 pf C72 to obtain the minimum colour flicker.
Note : capacitor C72 is usually a fixed condenser of adequate value set for the minimum flicker.



F12 BLOCK DIAGRAM

CHASSIS F-12 INTRODUCTION

The television is built around a high-volume integration integrated circuit TDA 8361/2, a new processor for PAL and NTSC system television.
This TDA 8361/2 processor combines all the small signal functions required of a colour television receiver, including operation of an external video and audio of a S-VHS (separate Luminance and Chrominance). Processor TDA 8361/2 is a video processor containing functions handling HF, sound, Horizontal and vertical synchronisation, PAL/NTSC decoding, and RGB control. IT was implemented using BIMOS technology, which combines MOS and bipolar methods. The bipolar technology is used for high-frequency signal processing (ex. video signals) and the MOS technology is used in those parts handling digital signals.
In addition it uses an integrated delay line TDA 4661, 2 audio output stages each using TDA 7056, a vertical output stage TDA 3653B, and a horizontal output stage with Darlington BU 808D. The power supply unit is of the flyback type and controlled by the TEA 2261 integrated circuit.

Principal functions common to both processor version TDA 8361/2 are :

-symmetric IF amplifier directly coupled to surface-wave filter
-FM sound multistandard demodulator, not needing regulation
-chroma trap and integrated band-pass filters
-integrated luminance delay line
-PAL/NTSC automatic decoder
-self-regulating horizontal oscillator
-low dissipation (about 700mW)
-possibility of selecting an external A/V source

Functions specific to TDA 8362 :

-multistandard IF circuit for positive and negative modulation
-simple interface with TDA 8395 (SECAM decoder) for PAL and SECAM multistandard applications.

Stereo decoder module

The stereo decoder module is connected to the F 11 chassis through the S connector (side of the tuner) . From the connector, + 12 V supply (pin S 6) voltage is applied to the module. From the same connector S at pin S 9 and S 13, AUDIO OUT signal is sent to the scart connector, whereas AUDIO IN is sent from the scart connector to module through pins S 12 and S 14. SDA and SCL control signals from the uP passes through pins S 1 and S 2 to the module The module receives the intercarrier signal (coaxial cable) and the + 16 V supply voltage for the audio output stages through the connector CN 3. The intercarrier signal is filtered by two audio filters 5.5 MHz and 5 74 MHz It is demodulated by IC 1 (TDA 9821). The two audio output signals from the demodulator are elaborated by the audio processor IC 2 (TDA 9840), which identifies the type of demodulated audio signal and switches the audio signal for output to the SCART connector. The adjustments of volume, balance and tones are carried out by IC 3 (TDA 8425) . All the adjustments are done through the i2cbus, just as the transfer of information to the uP for the management of OSD. The +5 V supply for IC 1 and IC 2 is obtained from the +12 V supply using the IC 4 (L 7805) regulator. The audio output signal from IC 3 is sent to the final audio IC 5 and IC 6 (TDA 7056) for power amplification.

CHASSIS F-12 ALIGNMENTS

38.9 MHz and AFC
Connect a 38.9 MHz intermediate-frequency generator to the tuner's IF output pin 17 and adjust the core L 3 so as to obtain 4 V. at pin 44 of TDA 8361/2 (in order to obtain a voltage of about 2.5 V. at the terminals of divided R 129 and R 128 - pin 9 of tuning integrated-circuit).

POWER SUPPLY
Measure the direct voltage at the terminals of capacitor C 111 and potentiometer VR 9 so as to obtain of 105V (110V for 21").

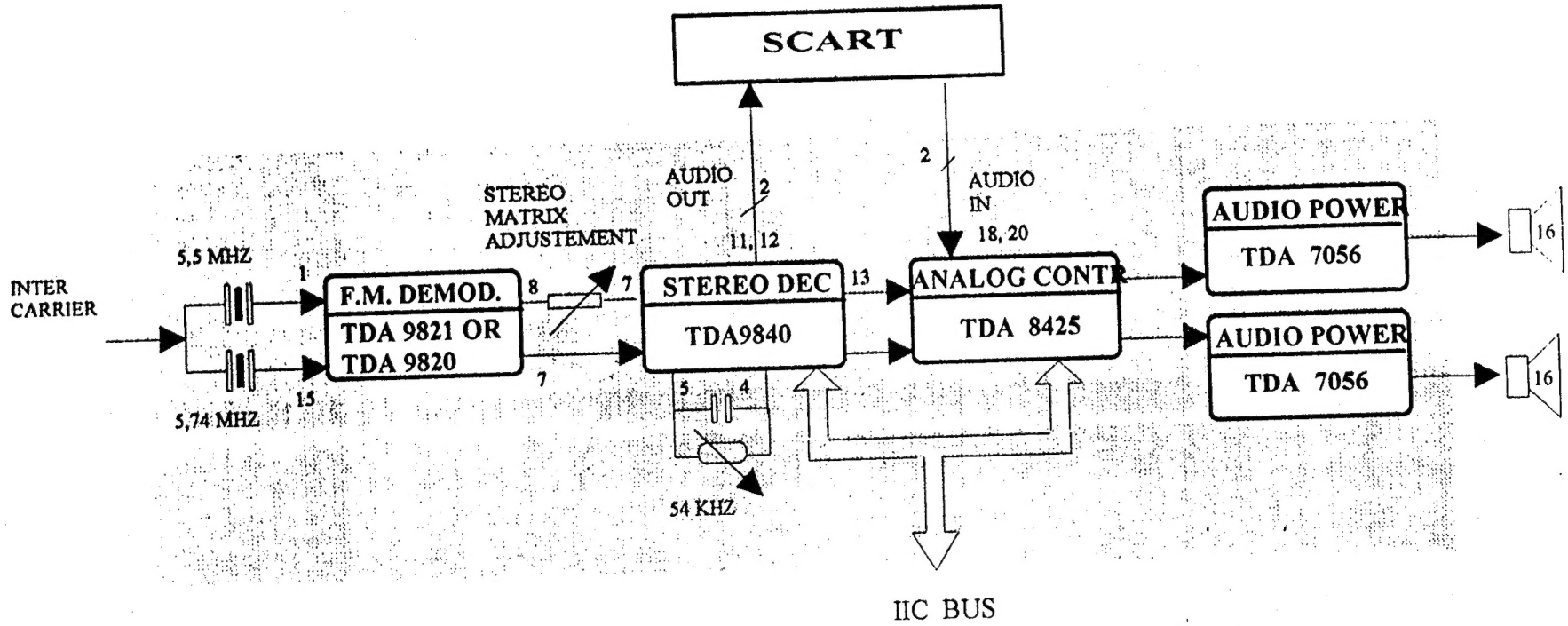
AGC
Apply a 60dBuV (+/- 1 dB) RF signal, band III, channel 10-to-12, and adjust potentiometer VR7 so as obtain a voltage of about 8 V at tuner pin no. 5 .

WHITE SETTING
-Tune to a channel with colour test-pattern signal
-Position level potentiometers RL, GL, BL, and gain potentiometers RG and BG on the CRT socket, locating centrally
-Adjust the TV receiver to maximum brightness, minimum colour and contrast
-Switch the TV to AV using the corresponding button on the remote control
-Adjust potentiometer G2 (EHT transformer) to obtain a barely visible screen. The screen usually appears with a predominant colour hue
-Adjust the level potentiometers of the order two cathodes that are different from the predominant colour in order to obtain the white screen. If, for example, the predominant colour of the screen is red, the potentiometers of the blue cathode BL and the green cathode GL are adjusted.
-Return to the TV mode with the appropriate remote-control button.
-Check that the hue of the colours of the colour test-pattern picture are correct. If necessary adjust the potentiometers RG-BG.

VERTICAL CENTERING
-Adjust VR 10 (VA) for proper vertical height
-Adjust VR 11 (VL) for proper vertical linearity
Cut/solder the jumpers JS22 and/or JS23 in order to obtain the right vertical geometric centering between CRT and signal. (For example, use a test-pattern signal).

4.43 MHz SETTING
-Apply a PAL colour-bar signal to the antenna
-Adjust pin 26 of TDA 8361/2 to the voltage of 8 V. (in these conditions the phase detector and the killer circuit are disabled).
-Set variable capacitor 2/20 pf C72 to obtain the minimum colour flicker.
Note : capacitor C72 is usually a fixed condenser of adequate value set for the minimum flicker.

FORMENTI



F12 STEREO MODULE

ALIGNMENT STEREO MODULE

Insert the stereo module in connector "S" of the chassis and insert the intercarrier signal connector CN 3 .
Apply to the CTV antenna input connector a TV signal with audio stereo (R = 3 KHz L= 1 KHz) from a generator, or alternatively, tune to a TV channel with stereo transmission. Adjust the coil L 1 to obtain the maximum level of signal at IC 2 pin 5.

ADJUSTMENT OF VR 1 (STEREO DEMATRIXING) .

For this adjustment only stereo signal from generator should be used.
Connect the probe scope at pin 1 and 3 of IC 3. Eliminate modulation tone of the left channel, adjust the trimmer VR1 for the minimum level of signal on the right channel (pin 1 of IC 3).

Bilingual decoding : is verified using a TV generator in a dual mode or tuning a TV channel with bilingual program, verify the switching of the language by A/B button on the remote control and check the relative OSD.

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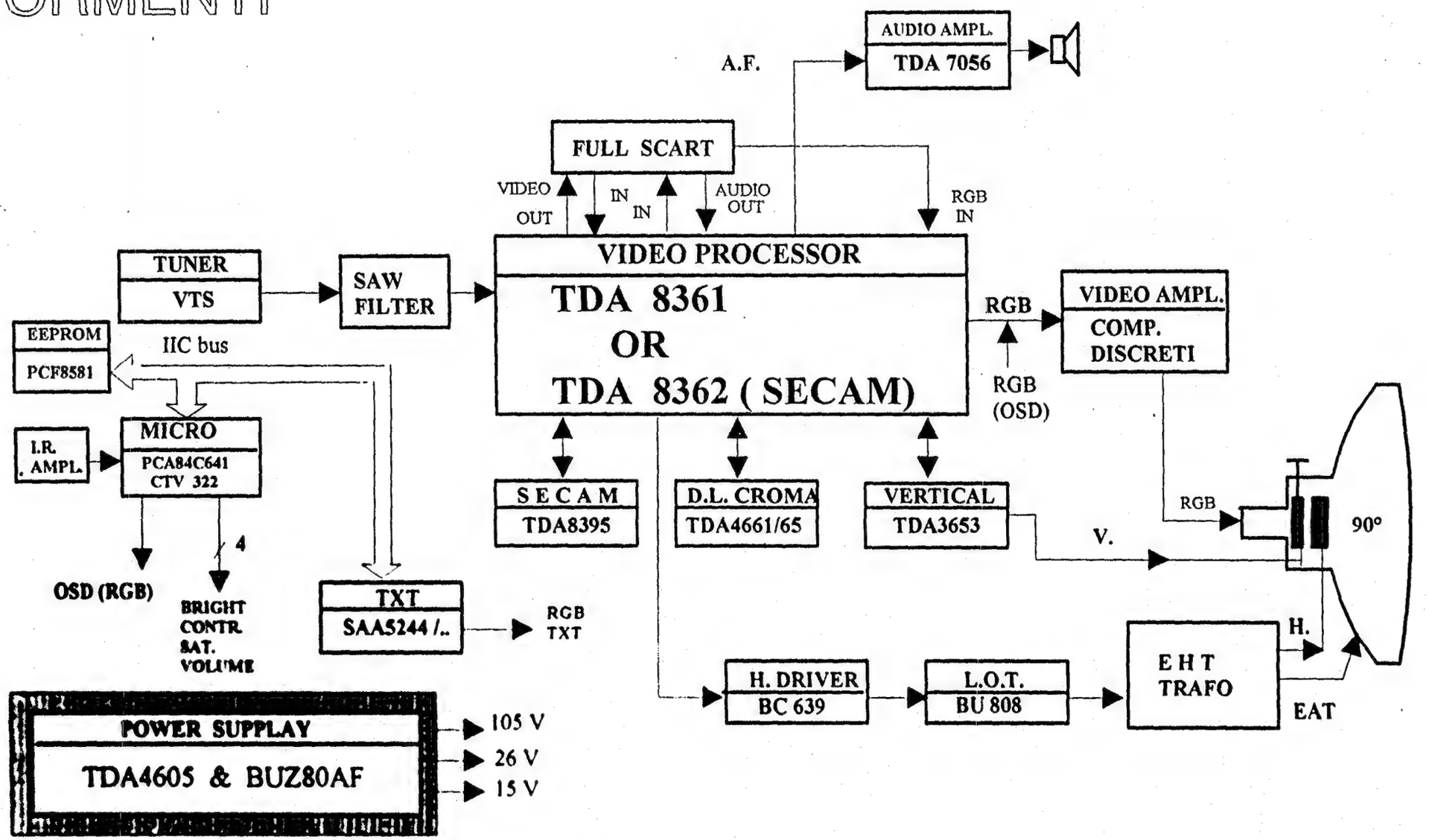


F14 BLOCK DIAGRAM

CHASSIS F-14 INTRODUCTION

The television is built around a high-volume integration integrated circuit TDA 8361/2, a new processor for PAL and NTSC system television.
This TDA 8361/2 processor combines all the small signal functions required of a colour television receiver, including operation of an external video and audio of a S-VHS (separate Luminance and Chrominance). Processor TDA 8361/2 is a video processor containing functions handling HF, sound, Horizontal and vertical synchronisation, PAL/NTSC decoding, and RGB control. IT was implemented using BIMOS technology, which combines MOS and bipolar methods. The bipolar technology is used for high-frequency signal processing (ex. video signals) and the MOS technology is used in those parts handling digital signals.
In addition it uses an integrated delay line TDA 4661/4665, an audio output stage TDA 7056, a vertical output stage TDA 3653B, and a horizontal output stage with Darlington BU 808D. The power supply unit is of the flyback type and controlled by the TDA 4605 integrated circuit and using a mosfet BUZ80AF.

Principal functions common to both processor version TDA 8361/2 are :

-symmetric IF amplifier directly coupled to surface-wave filter
-FM sound multistandard demodulator, not needing regulation
-chroma trap and integrated band-pass filters
-integrated luminance delay line
-PAL/NTSC automatic decoder
-self-regulating horizontal oscillator
-low dissipation (about 700mW)
-possibility of selecting an external A/V source

Functions specific to TDA 8362 :

-multistandard IF circuit for positive and negative modulation
-simple interface with TDA 8395 (SECAM decoder) for PAL and SECAM multistandard applications.

CHASSIS F-14 ALIGNMENTS

38.9 MHz and AFC
Connect a 38.9 MHz intermediate-frequency generator to the tuner's IF output pin 17 and adjust the core L 3 so as to obtain 4 V. at pin 44 of TDA 8361/2 (in order to obtain a voltage of about 2.5 V. at the terminals of divided R 129 and R 128 - pin 9 of tuning integrated-circuit).

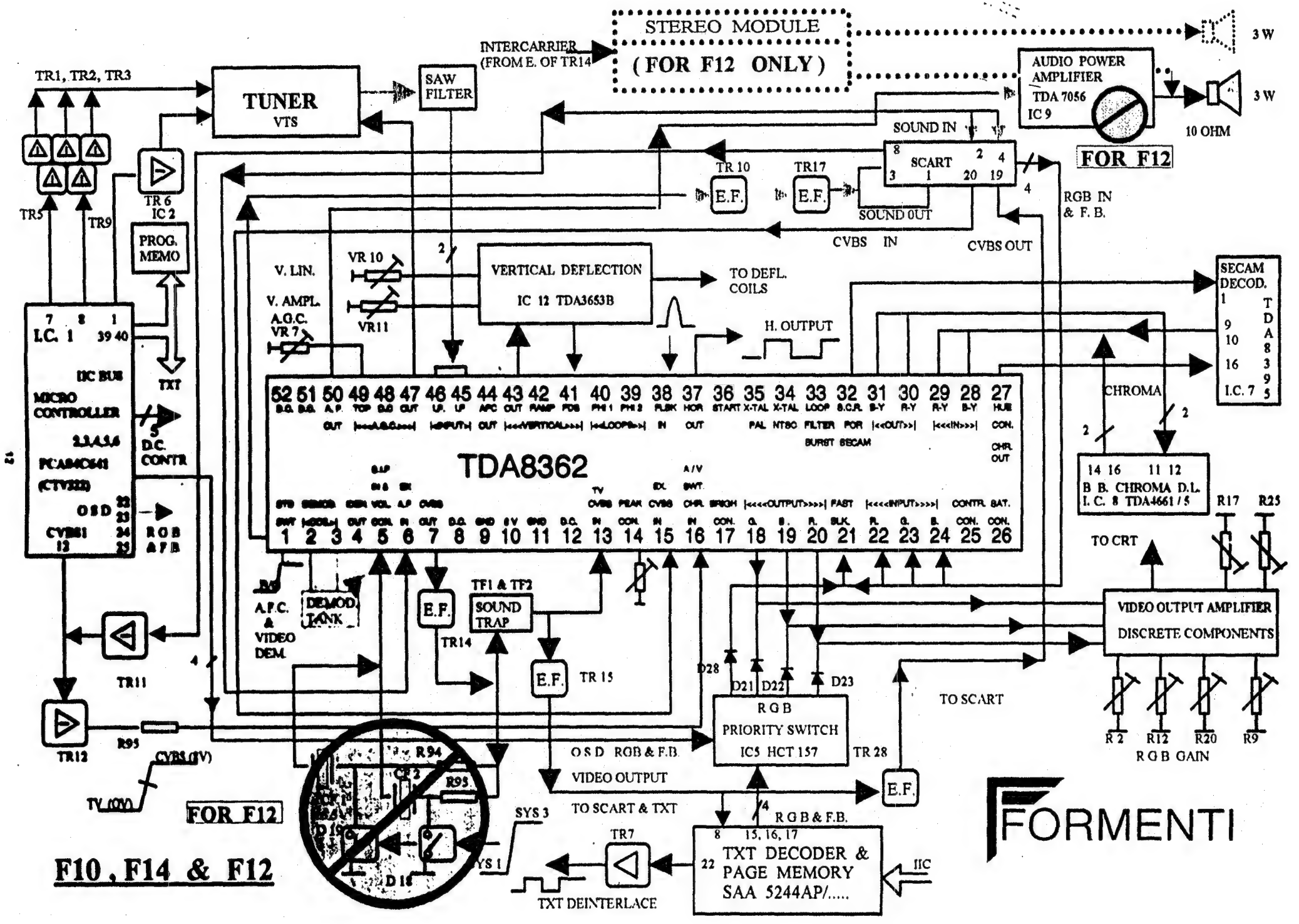
POWER SUPPLY
Measure the direct voltage at the terminals of capacitor C 111 and potentiometer VR 9 so as to obtain of 105V.

AGC
Apply a 60dBuV (+/- 1 dB) RF signal, band III, channel 10-to-12, and adjust potentiometer VR7 so as obtain a voltage of about 8 V at tuner pin no. 5 .

WHITE SETTING
-Tune to a channel with colour test-pattern signal
-Position level potentiometers RL, GL, BL, and gain potentiometers RG and BG on the CRT socket, locating centrally
-Adjust the TV receiver to maximum brightness, minimum colour and contrast
-Switch the TV to AV using the corresponding button on the remote control
-Adjust potentiometer G2 (EHT transformer) to obtain a barely visible screen. The screen usually appears with a predominant colour hue
-Adjust the level potentiometers of the order two cathodes that are different from the predominant colour in order to obtain the white screen. If, for example, the predominant colour of the screen is red, the potentiometers of the blue cathode BL and the green cathode GL are adjusted.
-Return to the TV mode with the appropriate remote-control button.
-Check that the hue of the colours of the colour test-pattern picture are correct. If necessary adjust the potentiometers RG-BG.

VERTICAL CENTERING
-Adjust VR 10 (VA) for proper vertical height
-Adjust VR 11 (VL) for proper vertical linearity
Cut/solder R. 200 and/or R. 201 in order to obtain the right vertical geometric centering between CRT and signal. (For example, use a test-pattern signal).

4.43 MHz SETTING
-Apply a PAL colour-bar signal to the antenna
-Adjust pin 26 of TDA 8361/2 to the voltage of 8 V. (in these conditions the phase detector and the killer circuit are disabled).
-Set variable capacitor 2/20 pf C72 to obtain the minimum colour flicker.
Note : capacitor C72 is usually a fixed condenser of adequate value set for the minimum flicker.


STEREO MODULE
(FOR F12 ONLY)
INTERCARRIER (FROM E. OF TR14
TR1, TR2, TR3
TUNER VTS
SAW FILTER
AUDIO POWER AMPLIFIER TDA 7056 IC 9
3 W
3 W
10 OHM
FOR F12
SOUND IN
SCART
TR 10
TR17
E.F.
SOUND OUT
RGB IN & F. B.
CVBS IN
CVBS OUT
TR5
TR9
TR 6 IC 2
PROG. MEMO
V. LIN.
V. AMPL.
A.G.C.
VR 10
VR11
VR 7
VERTICAL DEFLECTION IC 12 TDA3653B
TO DEFL. COILS
H. OUTPUT
SECAM DECOD. I.C. 7 TDA 8395
CHROMA
I.C. MICRO CONTROLLER
IIC BUS
TXT
D.C. CONTR
TDA8362
B B. CHROMA D.L. I. C. 8 TDA4661 / 5
R17
R25
TO CRT
VIDEO OUTPUT AMPLIFIER DISCRETE COMPONENTS
A.F.C. & VIDEO DEM.
DEMOD. TANK
TF1 & TF2
SOUND TRAP
TR14
TR 15
TR11
TR12
R95
CVBS (TV)
TV (OM)
FOR F12
R94
R93
D 15
D 16
SYS 3
SYS 1
TR7
TXT DEINTERLACE
OSD RGB & F.B.
VIDEO OUTPUT
TO SCART & TXT
RGB PRIORITY SWITCH IC5 HCT 157
TR 28
D28
D21
D22
D23
TO SCART
RGB & F.B.
TXT DECODER & PAGE MEMORY SAA 5244AP/.....
IIC
R 2
R12
R20
R9
RGB GAIN
F10 , F14 & F12
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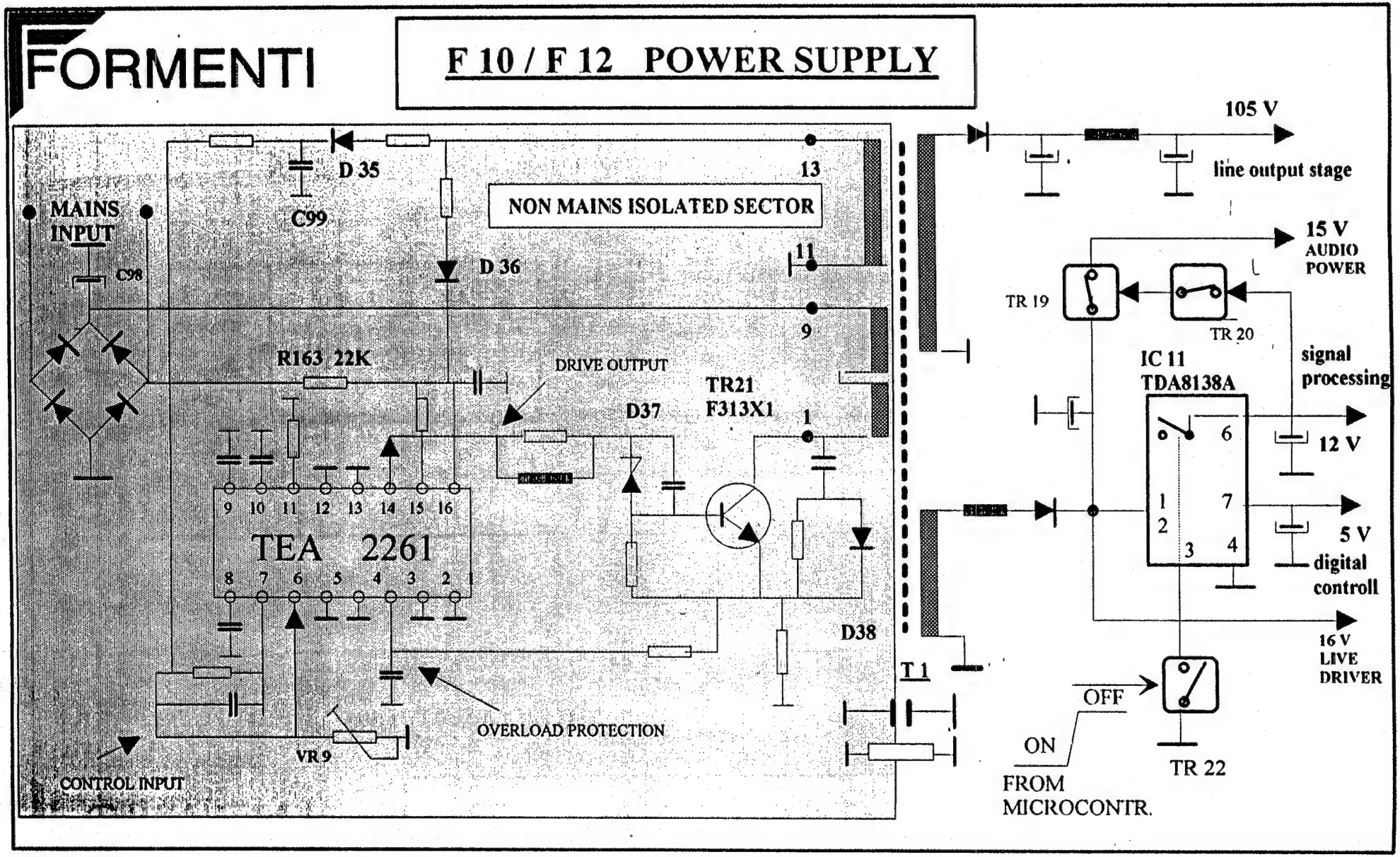
F 10 / F 12 POWER SUPPLY



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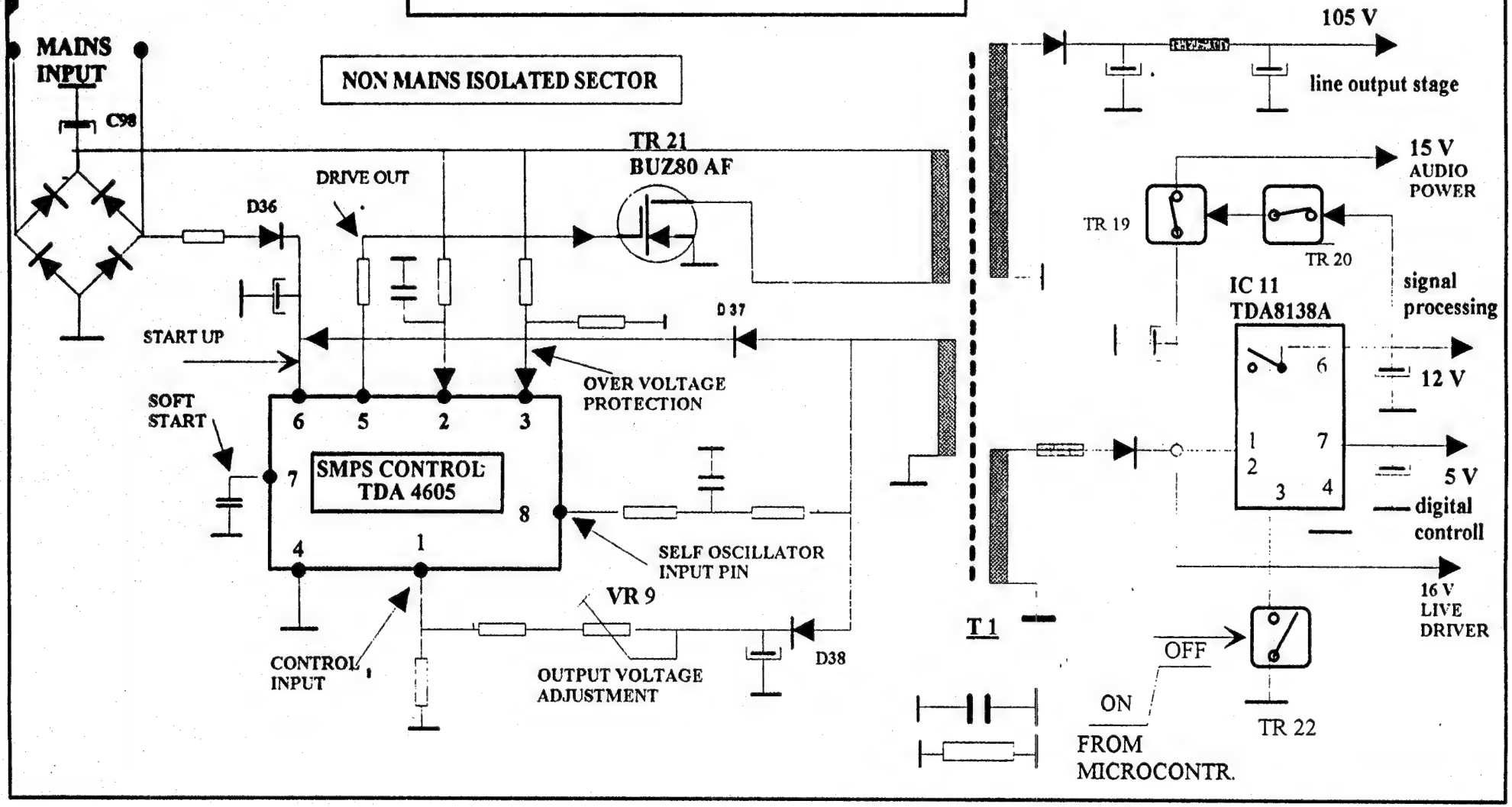
F 14 POWER SUPPLY



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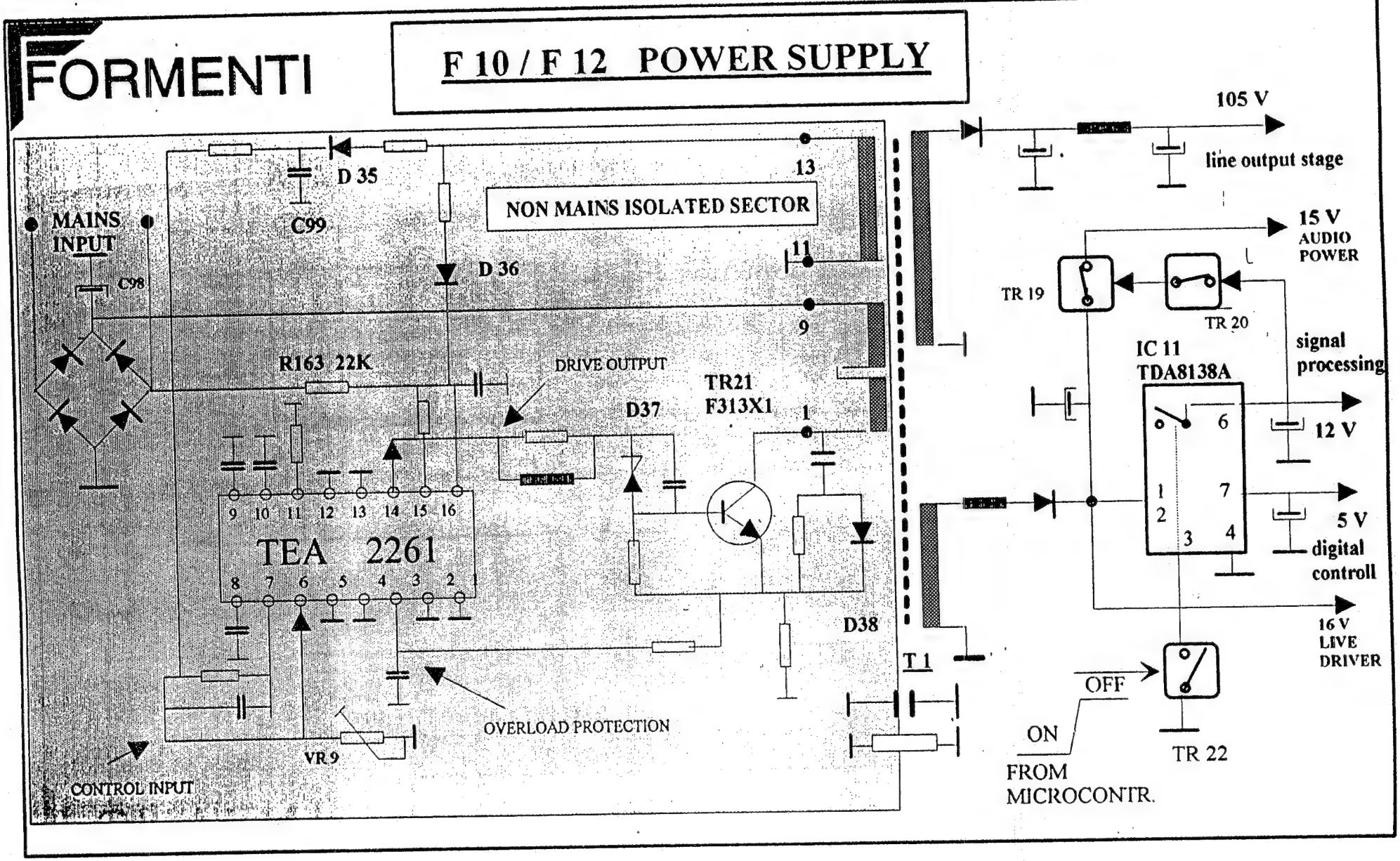
F 10 / F 12 POWER SUPPLY



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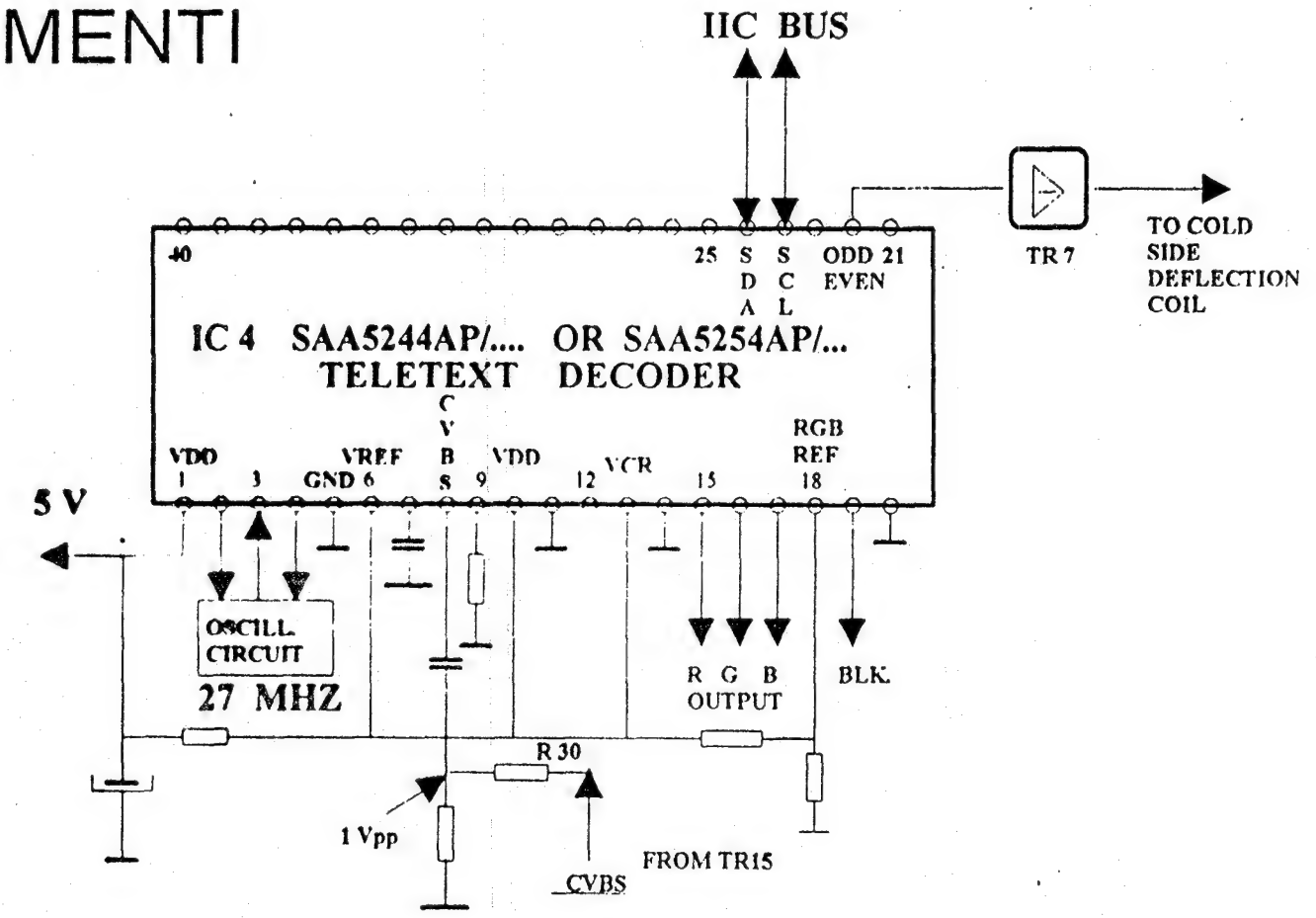
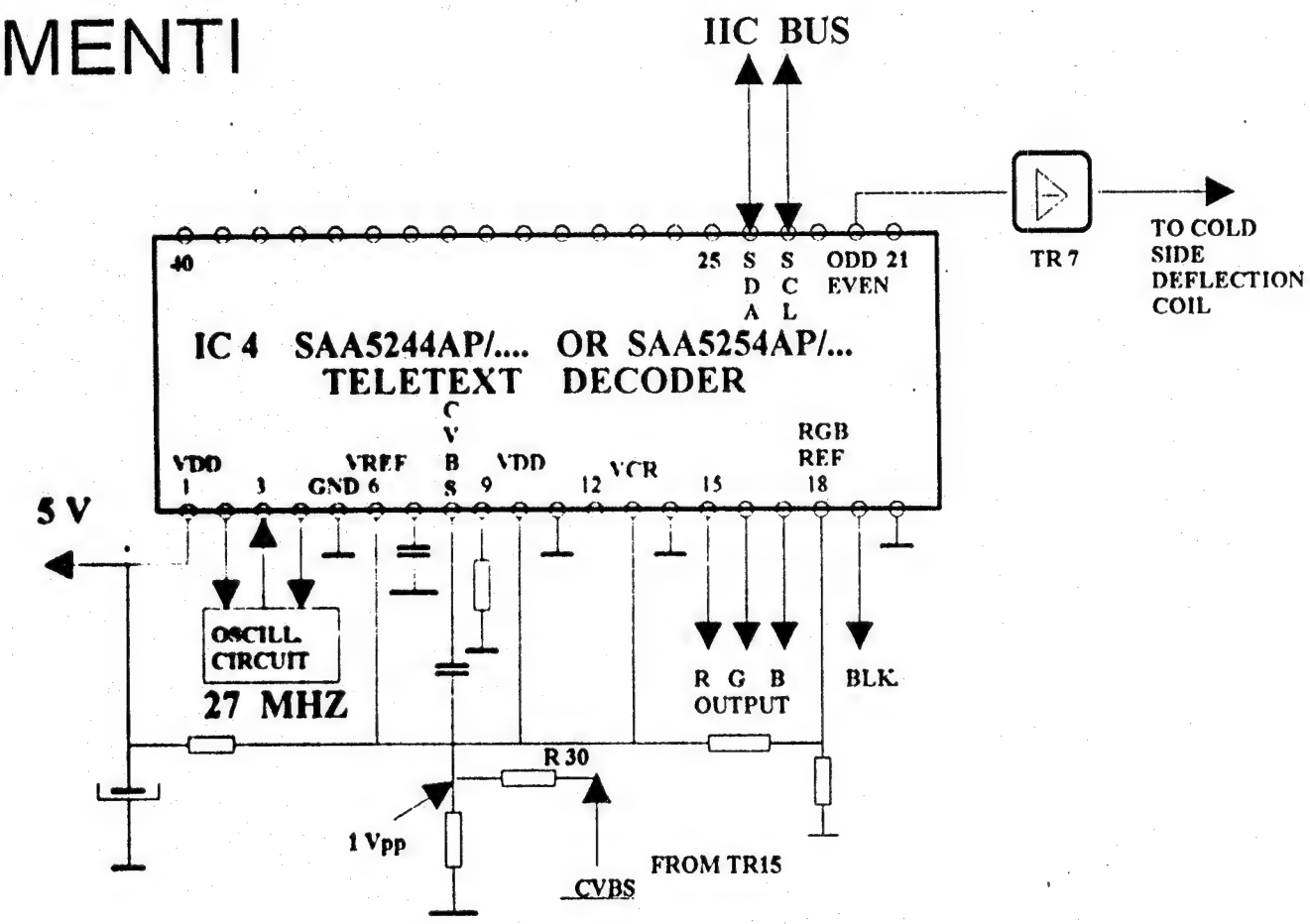

IIC BUS
TR 7
TO COLD SIDE DEFLECTION COIL
40
25
S D A
S C L
ODD 21 EVEN
IC 4 SAA5244AP/.... OR SAA5254AP/...
TELETEXT DECODER
VDD 1
3
GND 6
VREF
CVBS 8
9
VDD
12
VCR
15
RGB REF 18
5 V
OSCILL. CIRCUIT
27 MHZ
R G B OUTPUT
BLK.
R 30
1 Vpp
CVBS
FROM TR15

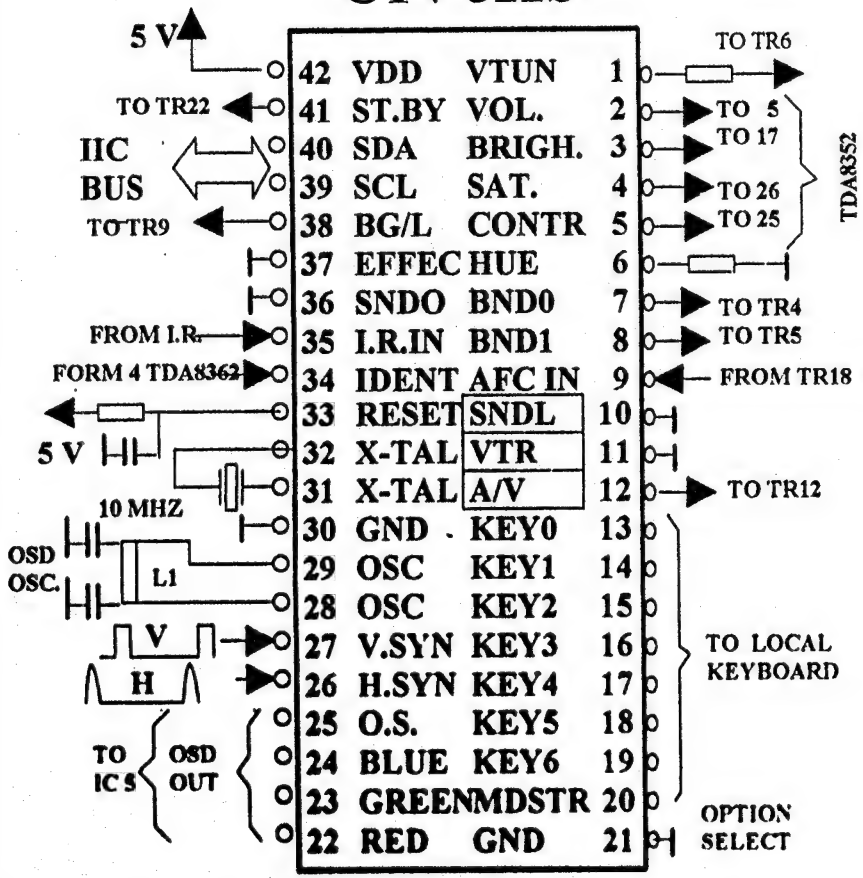
FORMENTI


IIC BUS
TR 7
TO COLD SIDE DEFLECTION COIL
40
25 S D A
S C L
ODD 21 EVEN
IC 4 SAA5244AP/.... OR SAA5254AP/...
TELETEXT DECODER
VDD 1
3
VREF GND 6
CVBS 8
9
VDD
12
VCR
15
RGB REF 18
5 V
OSCILL. CIRCUIT
27 MHZ
R G B OUTPUT
BLK.
R 30
1 Vpp
CVBS
FROM TR15

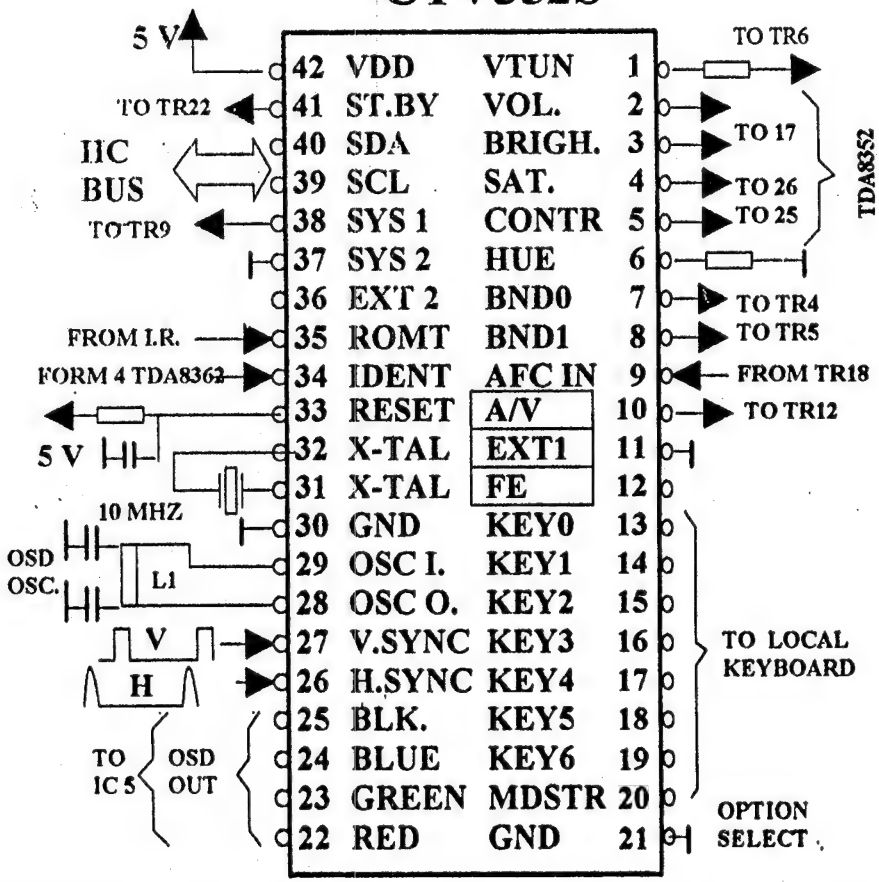
FORMENTI

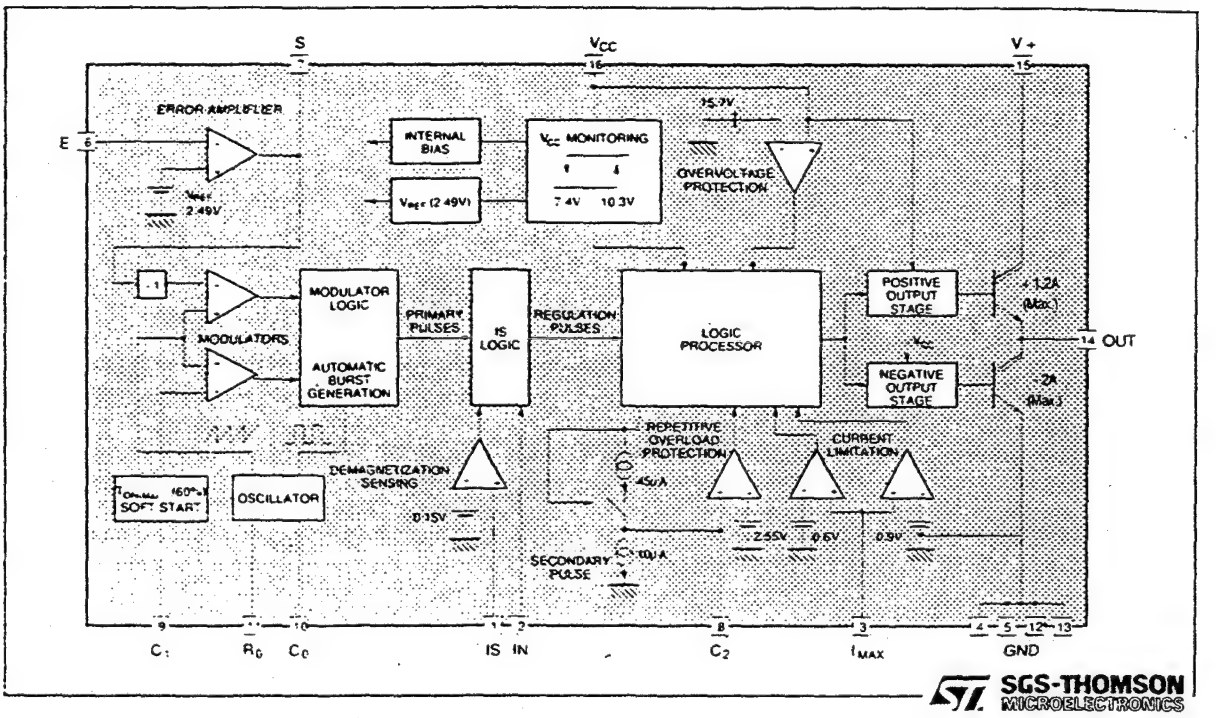
F10 , F12, & F14 MICROCONTROLLERS

F 10 & F 14
CTV 322S



F 12
CTV352S

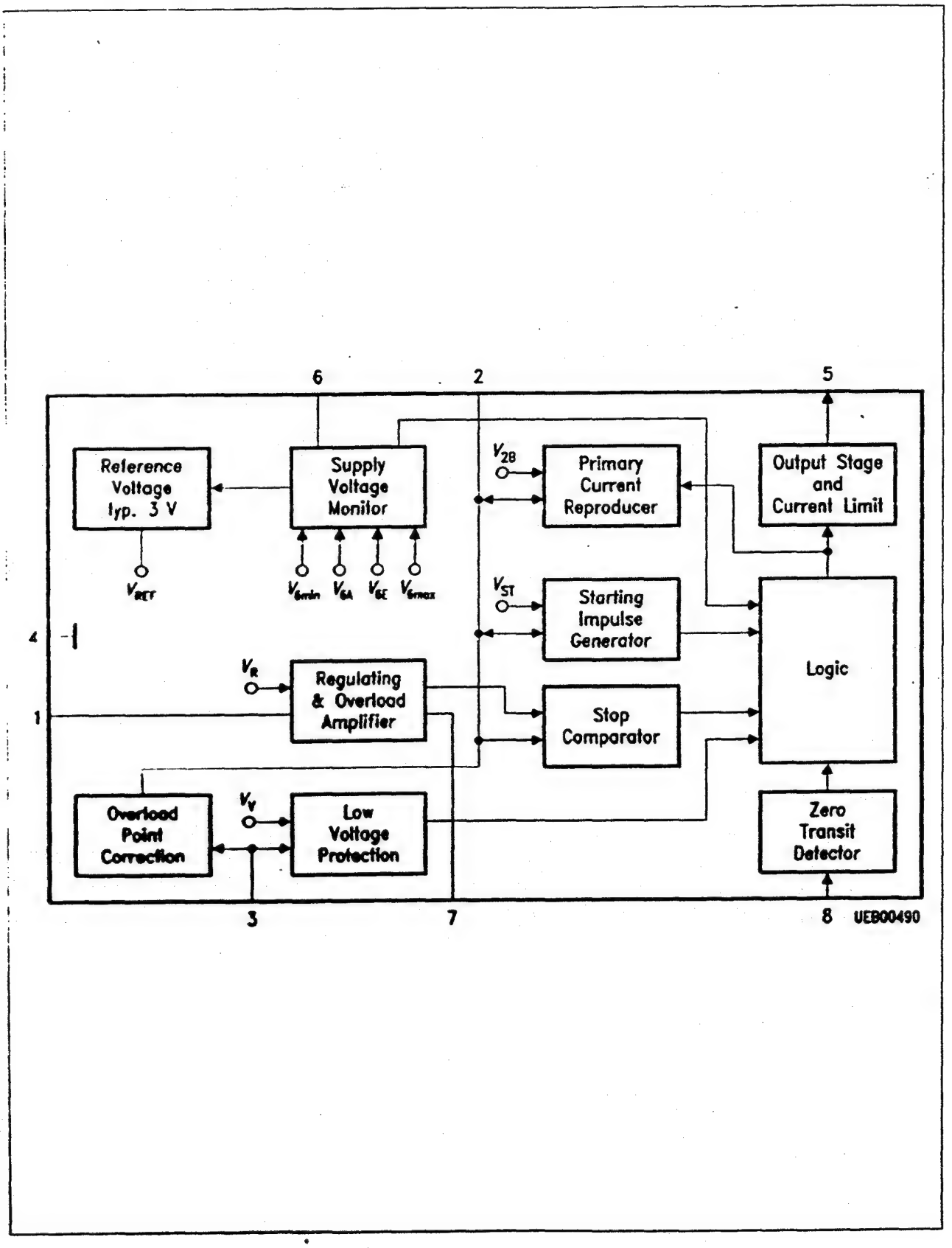




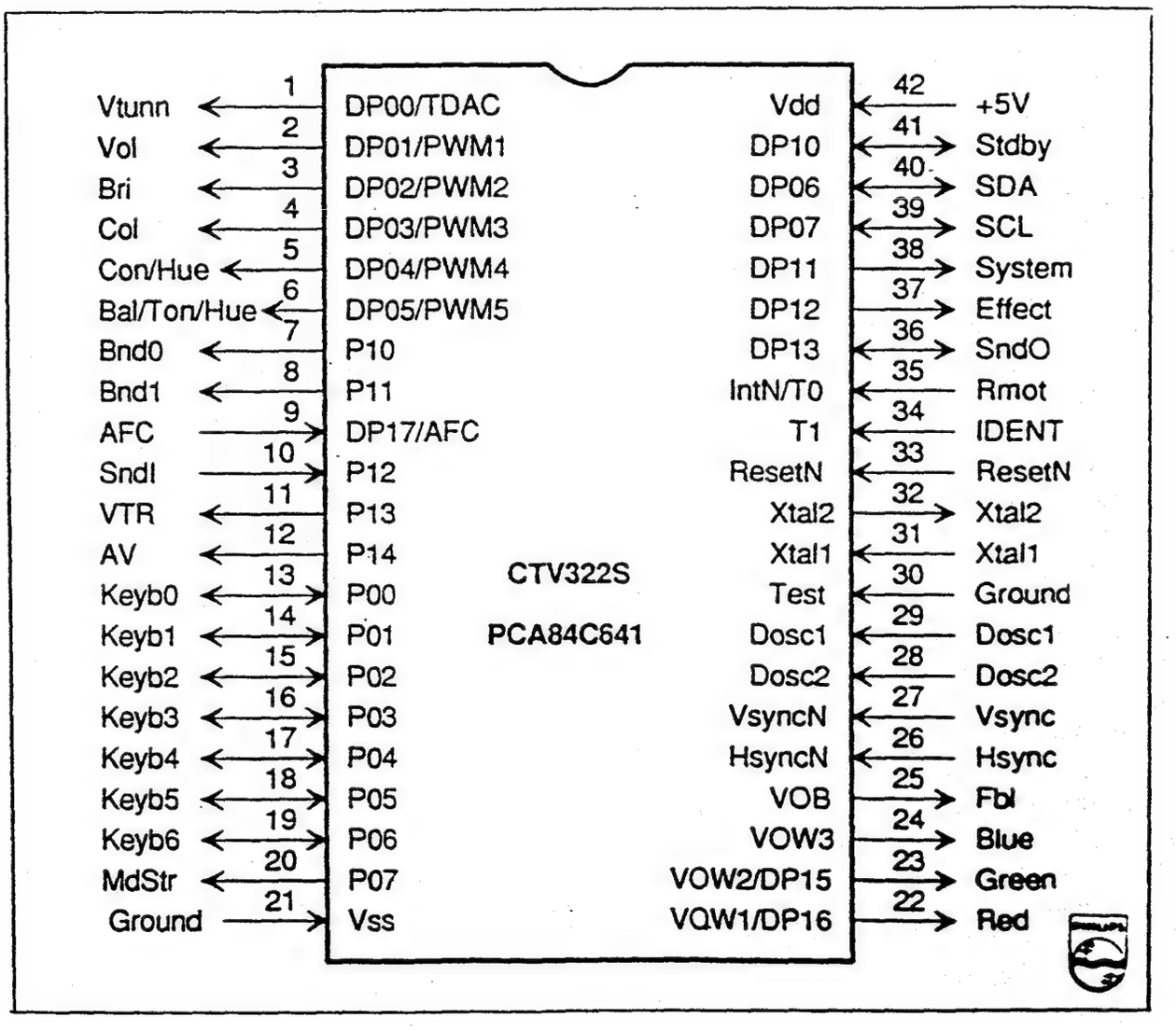
Functional description

Integrated circuit TEA 2261 is a switch-mode power controller that is particularly suited to TV use. It is a able to directly drive a bipolar current with a base current of 1.2 A. . It is a controller complete with all functions for normal operation, for transient operation (ex. soft-start), and for malfunction operation (protection against overload and short-circuits).

POWER SUPPLY - TDA 4605



TUNING - PCA 84C641/524 CTV322S



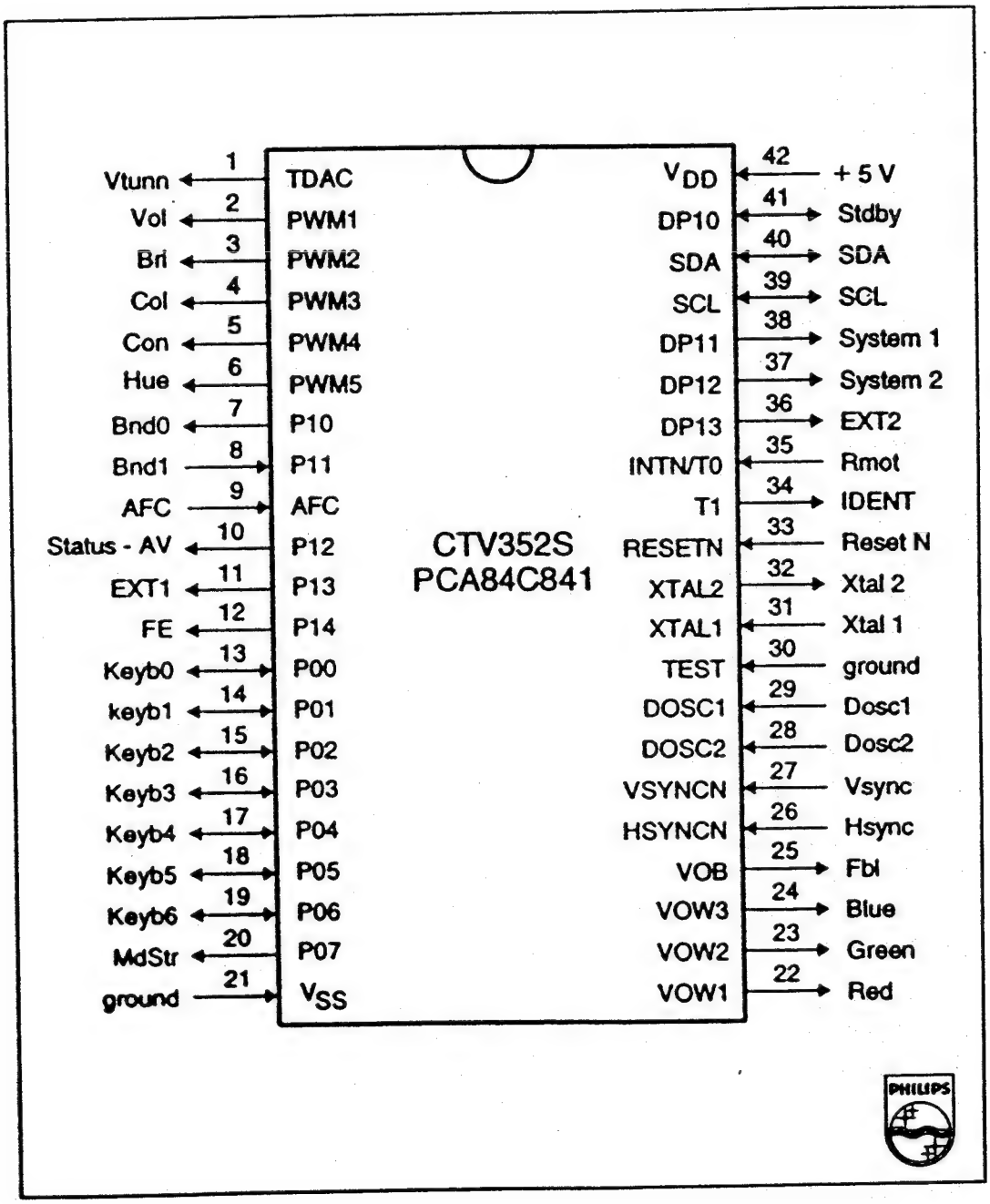
PCA84C641/524 CTV322S pinout description

1- tuning voltage output
2- volume output
3- brightness output
4- saturation output
5- contrast output
6- hue output
7- bands 0 output
8- bands 1 output
9- AFC input
10- Dual/nonDual input
11- VTR output
12- AV audio/video output
13- input/output keyboard
14- input/output keyboard
15- input/output keyboard
16- input/output keyboard
17- input/output keyboard
18- input/output keyboard
19- input/output keyboard
20- strobe output
21- ground
22- OSD red output
23- OSD green output
24- OSD blue output
25- OSD fast blanking
26- horizontal synchro input
27- vertical synchro input
28- OSD LC oscillator
29- OSD LC oscillator
30- ground (test)
31- xtal 10 MHz oscillator input
32- oscillator output
33- reset
34- identification input
35- IR input
36- mono/stereo or A/B language
37- sound effects output
38- system output
39- SCL i2cbus
40- SDA i2cbus
41- stand-by
42- power supply

Functional description

CTV322S tuning is a control system for television based on microcontroller PCA84C641/524. It is a voltage synthesis system with OSD (On-screen-display), sound and colour are controlled by 5 digital/analog converters.

TUNING - PCA 84C841 CTV352S



PCA84C841 CTV352S pinout description

1 - tuning voltage output
2 - volume output
3 - brightness output
4 - saturation output
5 - contrast output
6 - hue output
7 - band-switch 0 output
8 - band-switch 1 output
9 - AFC input
10 - AV status input
11 - external source select output
12 - Av audio/video output
13 - input/output keyboard
14 - input/output keyboard
15 - input/output keyboard
16 - input/output keyboard
17 - input/output keyboard
18 - input/output keyboard
19 - input/output keyboard
20 - strobe output
21 - ground
22 - OSD red output
23 - OSD green output
24 - OSD blue output
25 - OSD fast blanking
26 - horizontal synchro input
27 - vertical synchro input
28 - OSD LC oscillator
29 - OSD LC oscillator
30 - ground (test)
31 - xtal 10 MHz oscillator input
32 - oscillator output
33 - reset
34 - identification input
35 - IR input
36 - external source select output
37 - system output
38 - system output
39 - SCL i2cbus
40 - SDA i2cbus
41 - stand-by
42 - power supply

Functional description

CTV352S tuning is a control system for television based on microcontroller PCA84C841.
It is a voltage synthesis system with OSD (On-screen-display), sound and colour are controlled by 5 digital/analog converters.

88.65.99.710.01

SYMBOLES

CAPACITORS	VOLT	POLYEST	CERAM
25+63			
250			
500			
1000			
POLYPROP			
MELF			

RESISTORS: 1/4 · 1/2 · 1 · 2 · 5 · 10

* MULTIST.
* L-L' ONLY
* MONITOR ONLY

TEST POINT

SAFETY COMPONENT

WAVEFORMS
OSZILLOGRAMME
FORME D'ONDE
OSCILLOGRAMMI
FORMA DE ONDA

1 2VPP · 2 2.7VPP · 3 2VPP · 4 5VPP · 5 5VPP · 6 5VPP · 7 0.5VPP · 8 0.6VPP · 9 0.25VPP · 10 2VPP · 11 1.5VPP · 12 6VPP · 13 1VPP · 14 1.2VPP · 15 6VPP · 16 5VPP · 17 500VPP · 18 55VPP · 19 20VPP · 20 45VPP · 21 1VPP · 22 3VPP · 23 800VPP · 24 60VPP · 25 60VPP · 26 60VPP

BB BOARD BASE
PCB. 402.900

LC
PCB. 402.900

S
SON L-L'
PCB. 429.900

TS TUBE SOCKET
PCB. 782.907

IC1 PCA 84C641/524 CTV322
IC2 TDA 3843
IC3 PC74HCT241A25
IC4 SAA5244AP (TXT)
IC5 TDA 8361 (PAL NTSC)
IC5 TDA 8362 (PAL (SECAM) NTSC)
IC6 HC78L08
IC7 TDA 8395 SECAM
IC8 TDA 4661
IC9 TDA 7056
IC10 TDA 4605
IC12 TDA 3653B
IC HEF 4053
SVF1 OFW4450
TDA 8138A

F14-R1
14"+15"
08-01-1996

230V~ 50Hz

ADJUSTMENT · EINSTELLANWEISUNG · REGLAGES · REGOLAZIONI · AJUSTES
AUTOMATIC GAIN CONTROL · AUTOMATISCHE VERSTÄRKUNGSREGELUNG · CONTROLE AUTOMATIQUE DU GAIN · CONTROLLO AUTOMATICO GUADAGNO · CONTROL AUTOMATICO DE GANANCIA
SOUND LEVEL · LAUTSTÄRKEPEGEL · VOLUME SON · LIVELLO SUONO · NIVEL SONIDO
SUPPLY CONTROL · VERSORGUNGSSPANNUNG · REGLAGE D'ALIMENTATION · CONTROLLO ALIMENTAZIONE · AJUSTE SONIDO
HORIZONTAL SHIFT · HORIZONTAL-PHASE · POSITION HORIZONTALE · SPOSTAMENTO ORIZZONTALE · FASE HORIZONTAL
VERTICAL AMPLITUDE · VERTICAL AMPLITUDE · AMPLITUDE VERTICALE · AMPIEZZA VERTICALE · AMPLITUD VERTICAL
VERTICAL LINEARITY · VERTICALLINEARITÄT · LINEARITE VERTICALE · LINEARITÀ VERTICALE · LINEA IDAD VERTICAL
GREEN GAIN · GRÜNVERT · GAGNE VERT · GUADAGNO VERDE · GANANCIA VERDE
BLUE GAIN · BLAUVERT · GAGNE BLEU · GUADAGNO BLU · GANANCIA AZUL
RED BLACK LEVEL · SCHWARZWERT-ROT · NIVEAU DE GRIS ROUGE · LIVELLO ROSSO DEL NERO · NIVEL DE NEGRO ROJO
GREEN BLACK LEVEL · SCHWARZWERT-GRÜN · NIVEAU DE GRIS VERT · LIVELLO VERDE DEL NERO · NIVEL DE NEGRO VERDE
BLUE BLACK LEVEL · SCHWARZWERT-BLAU · NIVEAU DE GRIS BLEU · LIVELLO BLU DEL NERO · NIVEL DE NEGRO AZUL
SCREEN GRID · SCHIRMGITTERSPANNUNG · GRILLE-ECRAN · GRIGLIA SCHERMO · REJA PANTALLA
FOCUS · SCHÄRFE · FOCUS · FUOCO · FOCO

SYMBOLES

CAPACITORS			RESISTORS
VOLT	POLYEST	CERAM	WATT
25÷63			1/4
250			1/2
500			1
1000			2
POLYPROP			3
			10
MELF			

⚠ SAFETY COMMPONENT

3 TEST POINT

IC1 PCA 84C641/524 CTV322

IC2 ST24C02CP

IC3 PC74HCT241P

IC4 SAA5244AP (TXT)

IC5 TDA 8361 (PAL NTSC)
TDA 8362 (PAL SECAM)

IC9 TDA 7056

IC10 TEA 2261

IC11 TDA 8138A

IC12 TDA 3653B

TR25 BU808DX I

TR21 F313X I

8V (1MVRF)

105V

15V

12V

5V

3V5 IF

230V~ 50Hz

16Ω

BG/DK ONLY

* L-L' ONLY

	ADJUSTMENT EINSTELLANWEISUNG REGLAGES REGOLAZIONI AJUSTES
AGC	AUTOMATIC GAIN CONTROL AUTOMATISCHE VERSTÄRKUNGSREGELUNG / AVR CONTROLE AUTOMATIQUE DU GAIN CONTROLLO AUTOMATICO GUADAGNO CONTROL AUTOMATICO DE GANANCIJA
SL	SOUND LEVEL LAUTSTÄRKEPEGEL NIVEAU SON LIVELLO SUONO NIVEL SONIDO
SC	SUPPLY CONTROL VERSORGUNGSSPANNUNG REGLAGE ALIMENTATION CONTROLLO ALIMENTAZIONE AJUSTE ALIMENTACION
HS	HORIZONTAL SHIFT HORIZONTAL-PHASE POSITION HORIZONTALE SPOSTAMENTO ORIZZONTALE FASE HORIZONTAL
VA	VERTICAL AMPLITUDE VERTIKAL-AMPLITUDE.BILDHÖHE AMPLITUDE VERTICALE AMPIEZZA VERTICALE AMPLITUD VERTICAL
VL	VERTICAL LINARITY VERTIKAL-LINEARITAT LINEARITE VERTICALE LINEARITÀ VERTICALE LINEALIDAD VERTICAL
RG	RED GAIN VERSTÄRKUNG-ROT GAGNE ROUGE GUADAGNO ROSSO GANANCJA ROJO
BG	

886599 705 01

26
WAVEFORM
OSZILLATORDIAGRAMME
FORME D'ONDE
OSCILLOGRAMMI
FORMA DE ONDA

1 H 2VPP
2 H 2,7VPP
3 H 2VPP
4 H 5VPP
5 H 5VPP
6 H 5VPP
7 H 0,5VPP
8 H 0,6VPP
9 H 0,25VPP
10 V 2VPP
11 V 1,5VPP
12 H 4VPP
13 H 1VPP
14 H 1,2VPP
15 H 6VPP
16 H 2VPP
17 H 1,5VPP
18 H 400VPP
19 V 20VPP
20 V 45VPP
21 V 1VPP
22 H 3VPP
23 H 800VPP
24 H 60VPP
25 H 60VPP
26 H 60VPP

TVC F 10 14" ÷ 21"
28/05/1993
TS

VA VERTICAL AMPLITUDE
VERTIKAL-AMPLITUDE BILDHÖHE
AMPLITUDE VERTICALE
AMPIEZZA VERTICALE
AMPLITUD VERTICAL

VL VERTICAL LINARITY
VERTIKAL-LINEARITAT
LINEARITE VERTICALE
LINEARITA VERTICALE
LINEALIDAD VERTICAL

RG RED GAIN
VERSTÄRKUNG-ROT
GAGNE ROUGE
GUADAGNO ROSSO
GANANCJA ROJO

BG BLUE GAIN
VERSTÄRKUNG-BLAU
GAGNE BLEU
GUADAGNO BLU
GANANCJA AZUL

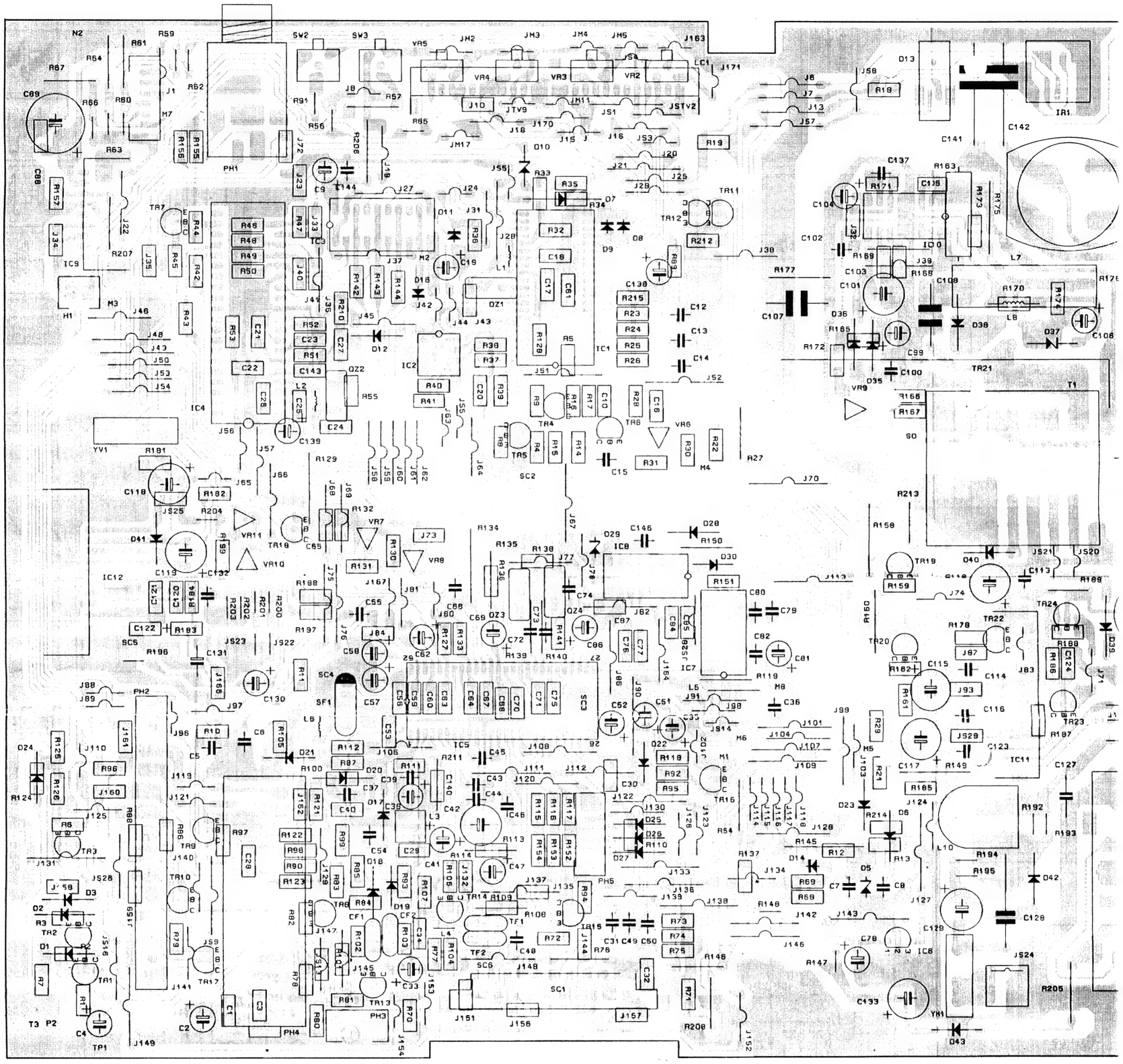
RL RED BLACK LEVEL
SCHWARZWERT-ROT
TEINTE DE GRIS ROUGE
LIVELLO ROSSO DEL NERO
NIVEL DE NEGRO ROJO

GL GREEN BLACK LEVEL
SCHWARZWET-GRÜN
TEINTE DE GRIS VERT
LIVELLO DEL VERDE DEL NERO
NIVEL DE NEGRO VERDE

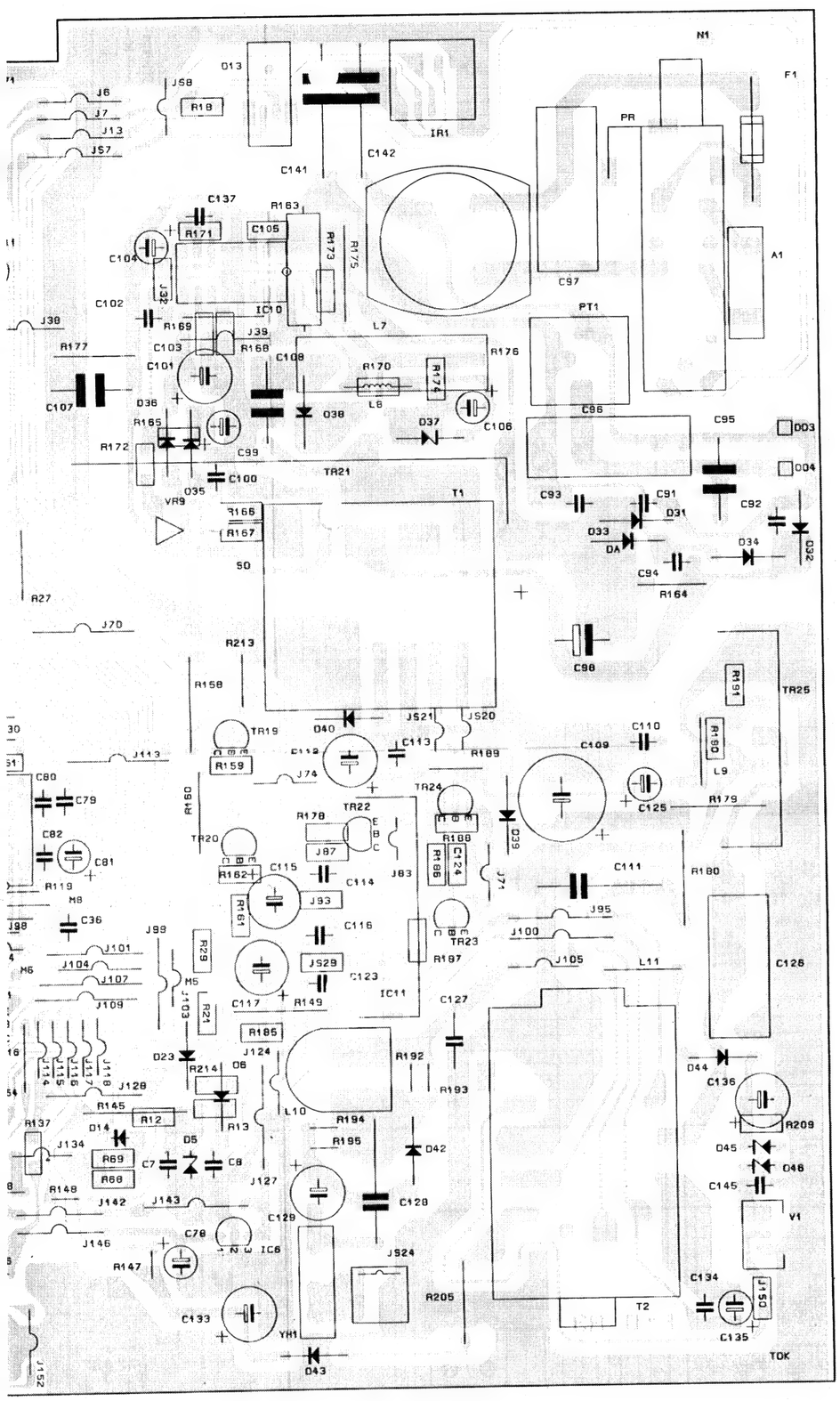
BL BLUE BLACK LEVEL
SCHWARZWERT-BLAU
TEINTE DE GRIS BLEU
LIVELLO BLU DEL NERO
NIVEL DE NEGRO AZUL

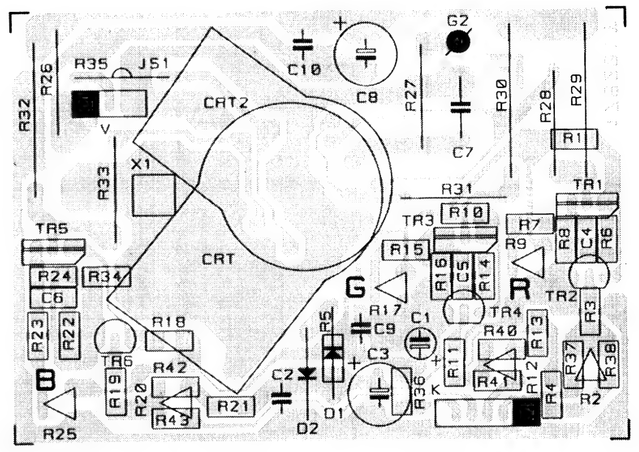
G2 SCREEN GRID
SCHIRMGITTERSPANNUNG
TENSION DU GRILLE-ECRAN
GRIGLIA SCHERMO
REJA PANTALLA

F FOCUS
FOKUS/BILDSCHÄRFE
FOCUS
FUOCO
FOCO



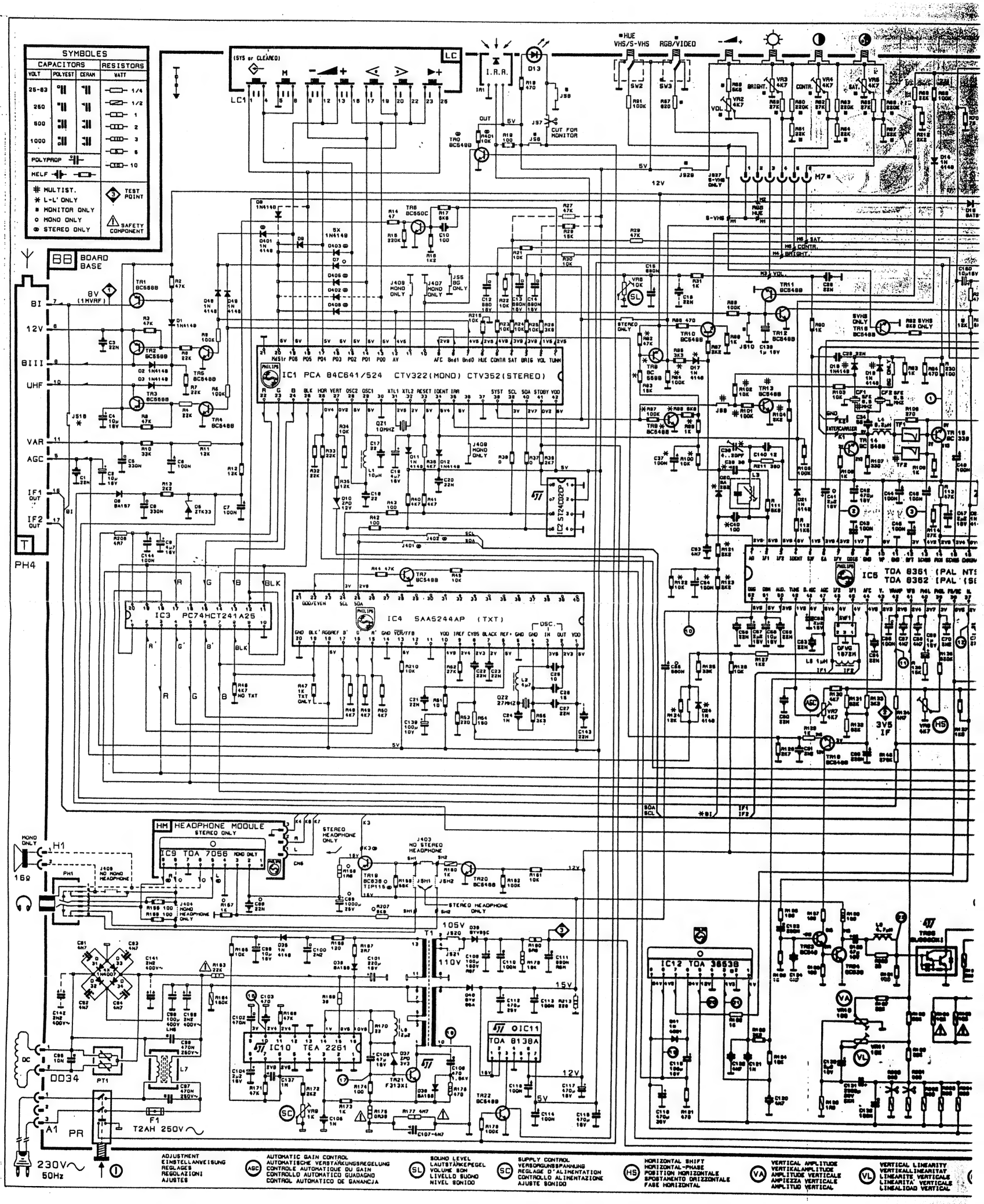
BOARD BASE - GRUNDCHASSIS - PLATINE MERE - TELAIO BASE - CIRCUITO IMPRESO CHASIS





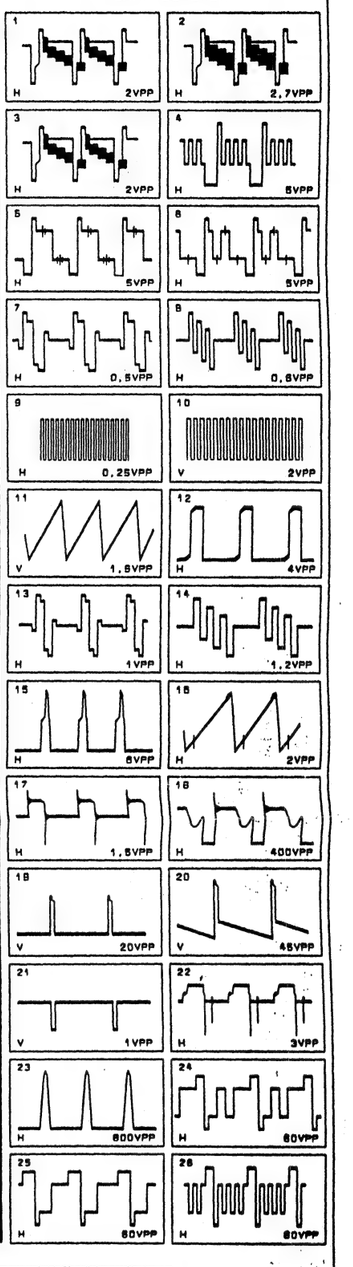
TUBE SOCKET
BILDROEHRENSOCKEL
SUPPORT TRC
ZOCCOLO CINESCOPIO
CIRCUITO IMPRESO ZOCALO

UITO IMPRESO CHASIS


SYMBOLES
CAPACITORS
RESISTORS
VOLT
POLYEST
CERAM
WATT
25-63
250
500
1000
POLYPROP
MELF
1/4
1/2
1
2
3
5
10
MULTIST.
L-L' ONLY
MONITOR ONLY
MONO ONLY
STEREO ONLY
TEST POINT
SAFETY COMPONENT
BB BOARD BASE
LC
(SYS or CLEARED)
M
I.R.R.
D13
HUE
VHS/S-VHS
RGB/VIDEO
BRIGHT
CONTR.
SAT.
VOL
CUT FOR MONITOR
S-VHS ONLY
M7
M2 RGB HUE
M3 VOL.
M4 BRIGHT
M5 CONTR.
M6 SAT.
BI
12V
BIII
UHF
VAR
AGC
IF1 OUT
IF2 OUT
T
PH4
8V (1MVRF)
IC1 PCA 84C641/524 CTV322(MONO) CTV352(STEREO)
IC2 ST24C02CP
IC3 PC74HCT241A25
IC4 SAA5244AP (TXT)
IC5 TDA 8361 (PAL NTS
TDA 8362 (PAL (SE
IC8 TDA 3653B
IC9 TDA 7056
IC10 TEA 2261
IC11 TOA 8138A
IC12 TOA 3653B
HM HEADPHONE MODULE
STEREO ONLY
STEREO HEADPHONE ONLY
NO STEREO HEADPHONE
NO MONO HEADPHONE
MONO ONLY
16Ω
H1
PH1
DC
0034
PT1
L7
F1
T2AH 250V
A1
PR
230V 50Hz
105V
110V
15V
12V
5V
3V5 IF
ADJUSTMENT
EINSTELLANWEISUNG
REGLAGES
REGOLAZIONI
AJUSTES
AGC AUTOMATIC GAIN CONTROL
AUTOMATISCHE VERSTÄRKUNGSREGELUNG
CONTROLE AUTOMATIQUE DU GAIN
CONTROLLO AUTOMATICO DEL GUADAGNO
CONTROL AUTOMATICO DE GANANCIA
SL SOUND LEVEL
LAUTSTÄRKEPEGEL
VOLUME SON
LIVELLO SUONO
NIVEL SONIDO
SC SUPPLY CONTROL
VERSORGUNGSSPANNUNG
REGLAGE D'ALIMENTATION
CONTROLLO ALIMENTAZIONE
AJUSTE SONIDO
HS HORIZONTAL SHIFT
HORIZONTAL-PHASE
POSITION HORIZONTALE
SPOSTAMENTO ORIZZONTALE
FASE HORIZONTAL
VA VERTICAL AMPLITUDE
VERTICALAMPLITUDE
AMPLITUDE VERTICALE
AMPIEZZA VERTICALE
AMPLITUD VERTICAL
VL VERTICAL LINEARITY
VERTIKALLINEARITAT
LINEARITE VERTICALE
LINEARITA' VERTICALE
LINEALIDAD VERTICAL

88655038400

WAVEFORMS
OSZILLOGRAMME
FORME D'ONDE
OSCILLOGRAMMI
FORMA DE ONDA



IC5 TDA 8361 (PAL NTSC)
TDA 8362 (PAL (SECAM) NTSC)

IC7 TDA 8395 SECAM

IC8 TDA 4661

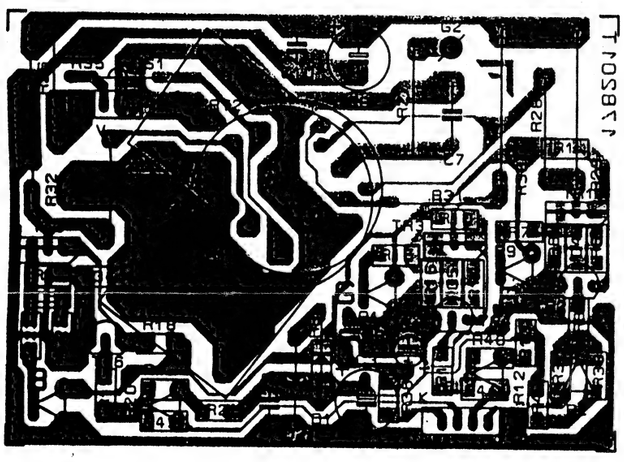
IC6 MC78L08

IC12 TDA 3653B

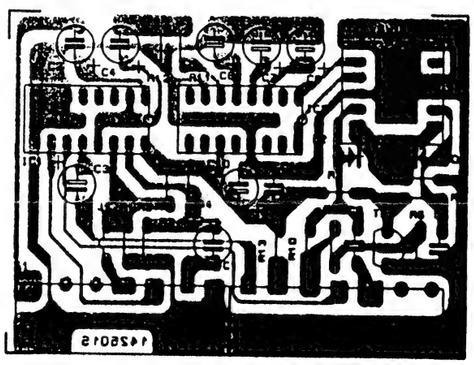
STEREO DECODER

TVC F12
14"-21"
11-01-96

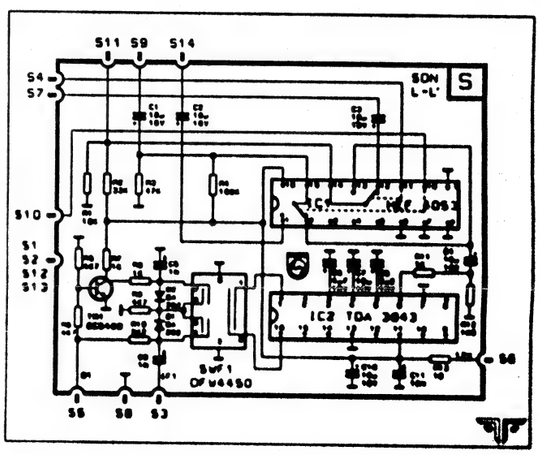
HS HORIZONTAL SHIFT HORIZONTAL-PHASE POSITION HORIZONTALE DESPLAZAMIENTO HORIZONTAL ASE HORIZONTAL	VA	VERTICAL AMPLITUDE VERTIKALAMPLITUDE AMPLITUDE VERTICALE AMPIEZZA VERTICALE AMPLITUD VERTICAL	VL	VERTICAL LINEARITY VERTIKALLINEARITAT LINEARITE VERTICALE LINEARITA' VERTICALE LINEALIDAD VERTICAL	RG	RED GAIN ROTVERT GAINE ROUGE GUADAGNO ROSSO GANANCIA ROJO	BG	BLUE GAIN BLAUVERT GAINE BLEU GUADAGNO BLU' GANANCIA AZUL	RL	RED BLACK LEVEL SCHWARZWERT-ROT TEINTE DE GRIS ROUGE LIVELLO ROSSO DEL NERO NIVEL DE NEGRO ROJO	GL	GREEN BLACK LEVEL SCHWARZWERT-GRÜN TEINTE DE GRIS VERT LIVELLO VERDE DEL NERO NIVEL DE NEGRO VERDE
BL	BLUE BLACK LEVEL SCHWARZWERT-BLAU TEINTE DE GRIS BLEU LIVELLO BLU DEL NERO NIVEL DE NEGRO AZUL	G2	SCREEN GRID SCHIRMGITTERSPANNUNG GRILLE-ECRAN GRIGLIA SCHERMO REJA PANTALLA	F	FOCUS SCHÄRFE FOCUS FUOCO FOCO						

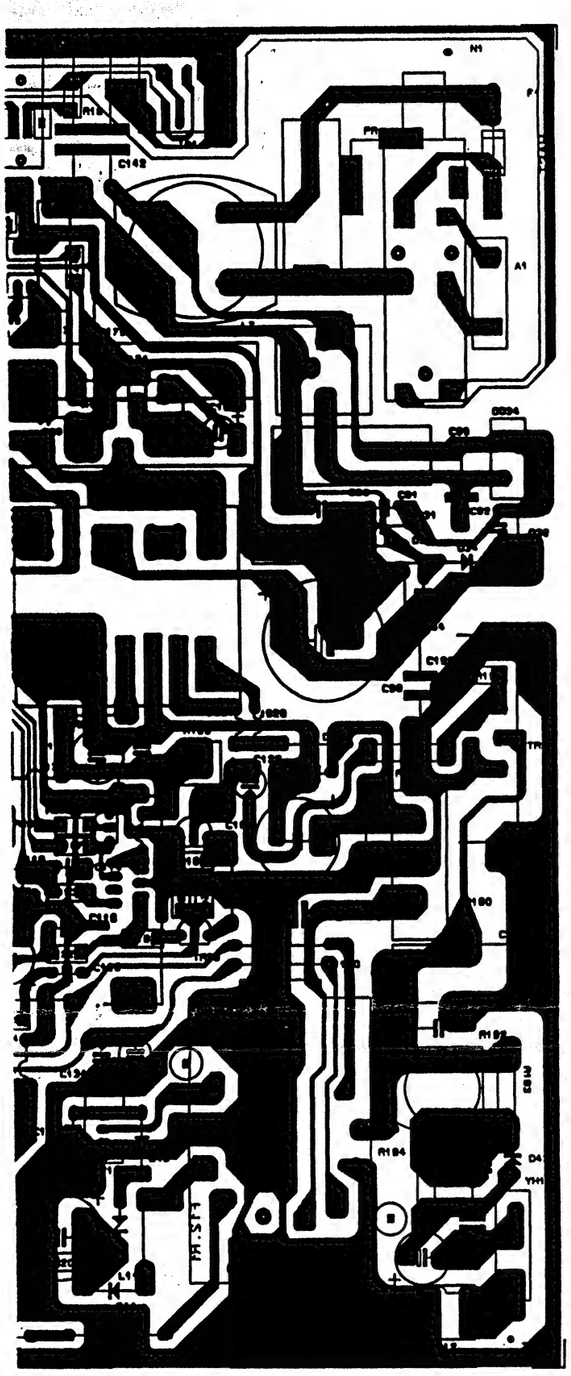


TUBE SOCKET
BILDROEHRENSOCKEL
SUPPORT TRC
ZOCCOLO CINESCOPIO
CIRCUITO IMPRESO ZOCALO

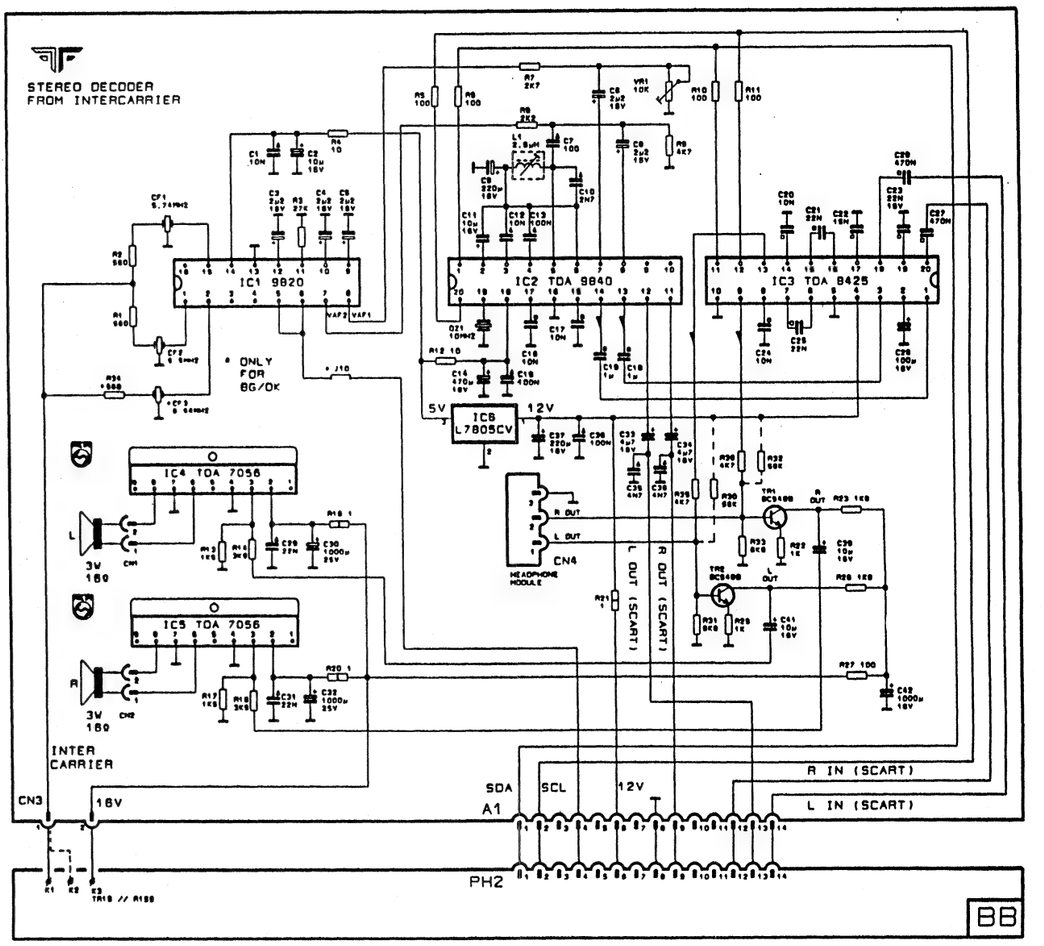


AUDIO/L
AUDIO/L
SON/L
AUDIO/L

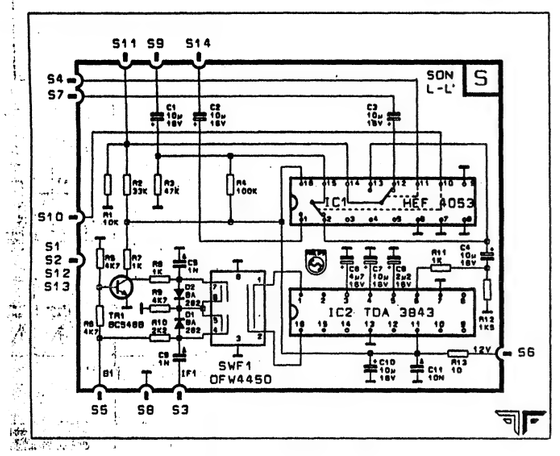


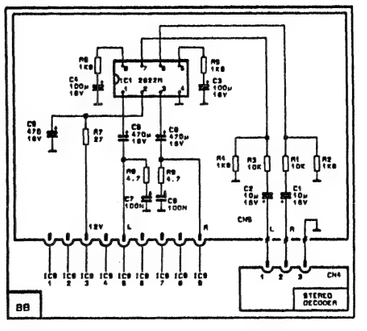


BOARD BASE
GRUNDCHASSIS
PLATINE MERE
TELAIO BASE
CIRCUITO IMPRESO CHASIS

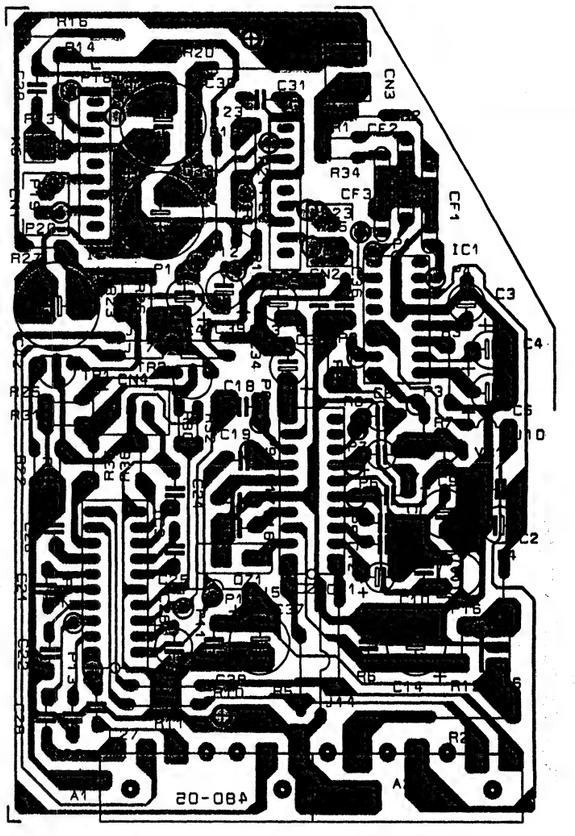


STEREO DECODER
STEREO TON
MODULE SON STEREO
AUDIO STEREO
SONIDO STEREO

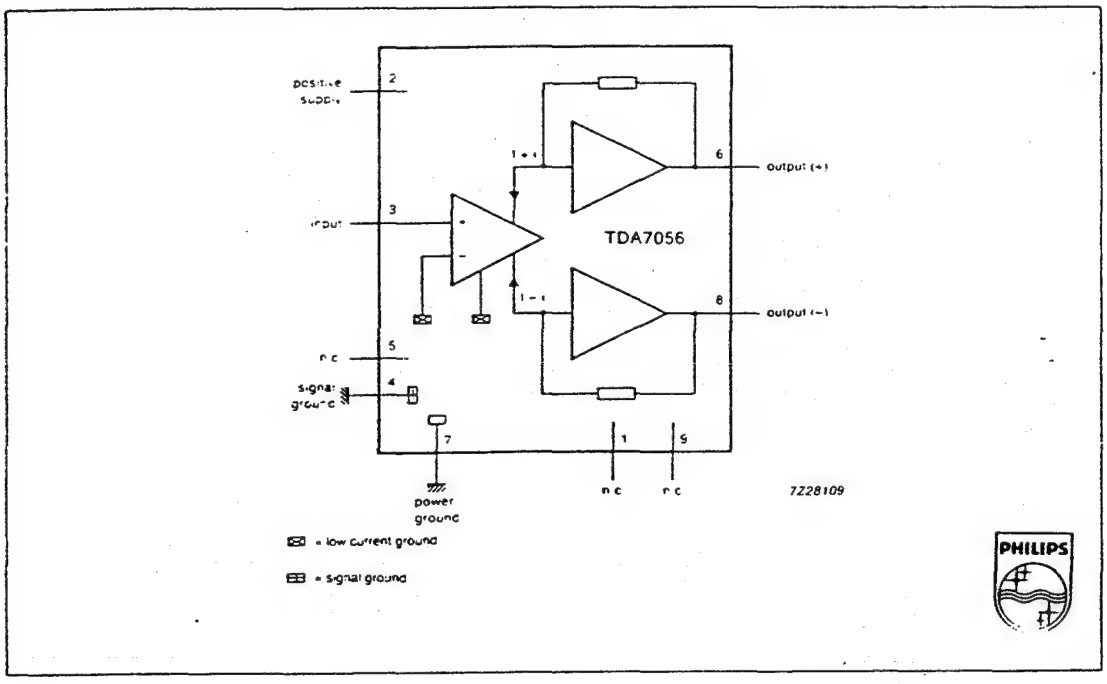




HEADPHONES AMPLIFIER
KOPFHÖRER VERSTÄRKER
AMPLIFICATORE CUFFIA
AMPLIFICADOR AURICULARES



AUDIO - TDA 7056 - FOR MONO VERSION



TDA 7056 pinout description

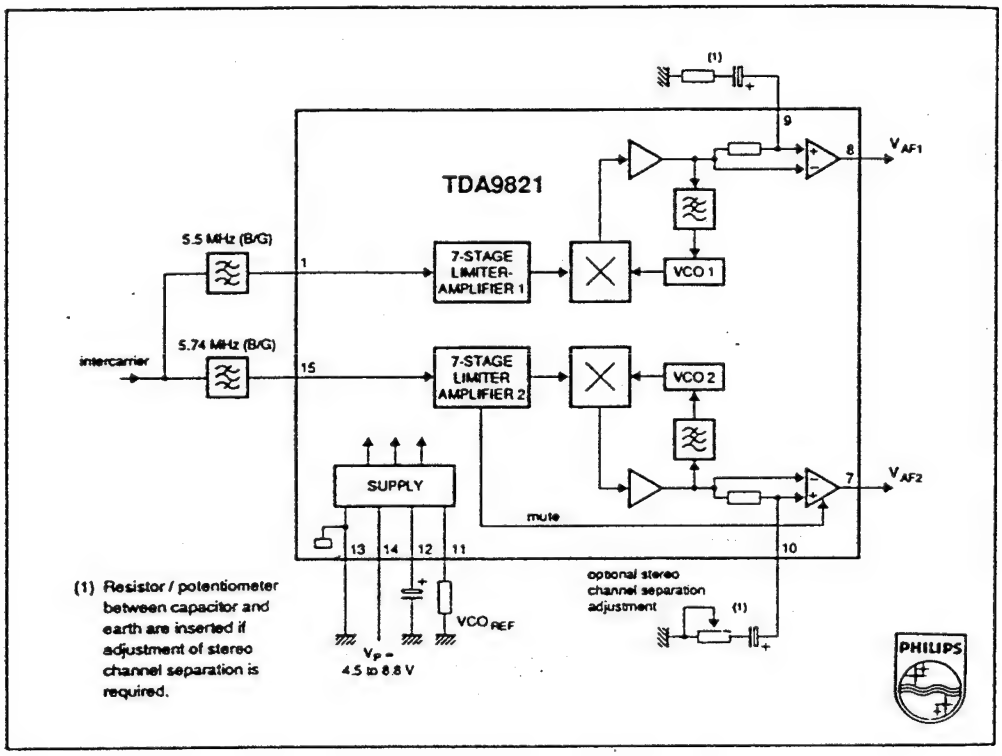
1- n.c.
2 - power supply
3 - input (+)
4 - signal ground
5 - n.c.
6 - output (+)
7 - power ground
8 - output (+)
9 - n.c.

Functional description

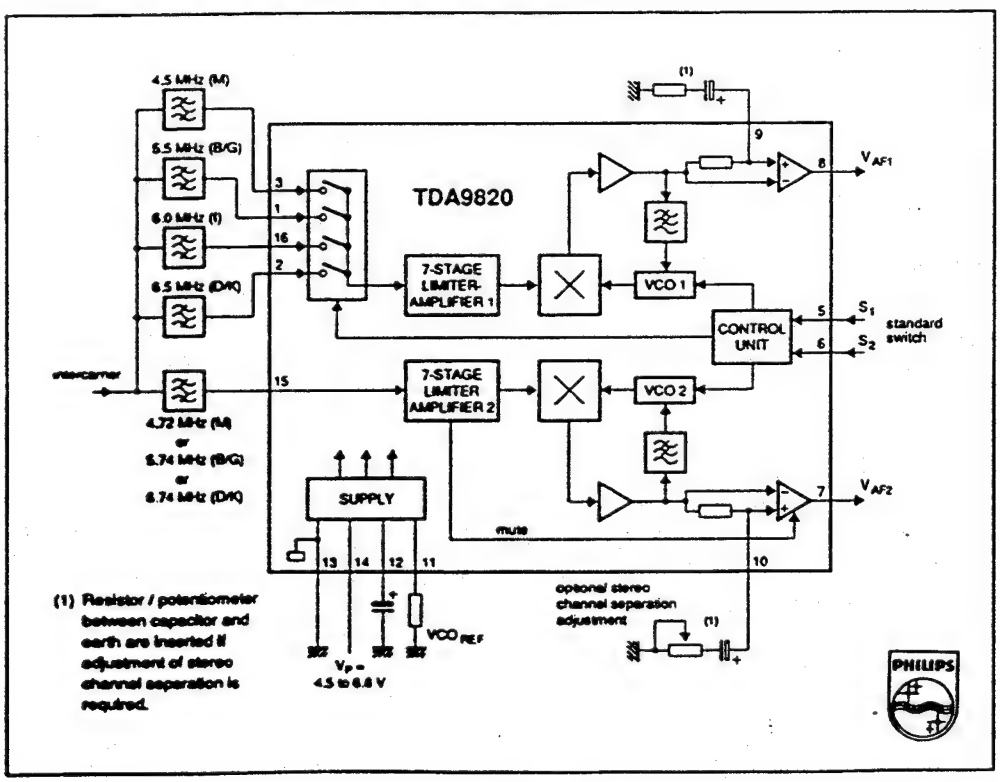
TDA 7056 is a monophonic output amplifier. It requires no external component and uses BTL (Bridge-Tied-Load) outputs. For equal power-supply voltages, it has more power than that of traditional components. It drives 16 Ohm speakers. Gain is set internally at 40 dB.

STEREO DECODER

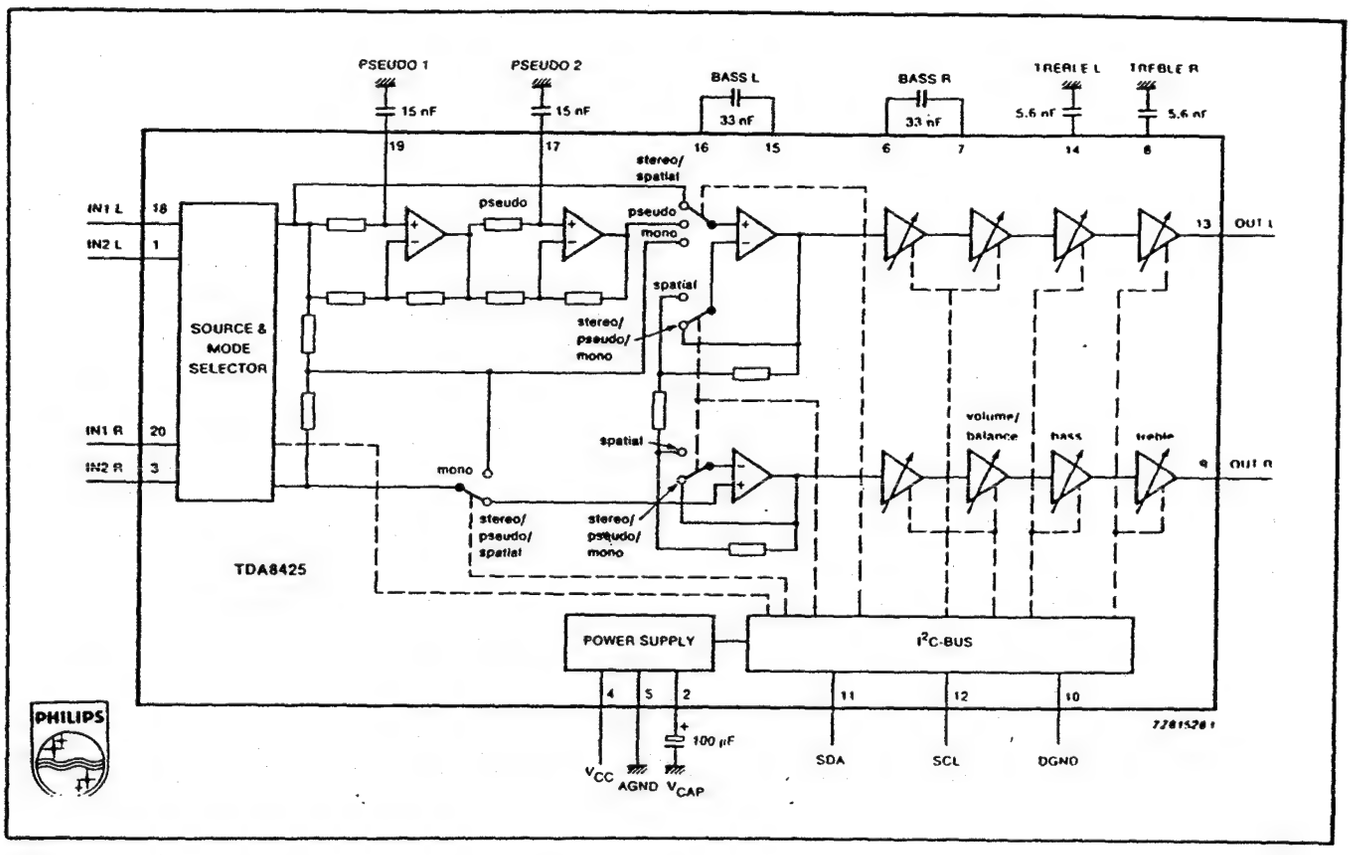
TDA 9821 : Dual channel TV FM intercarrier sound demodulator.



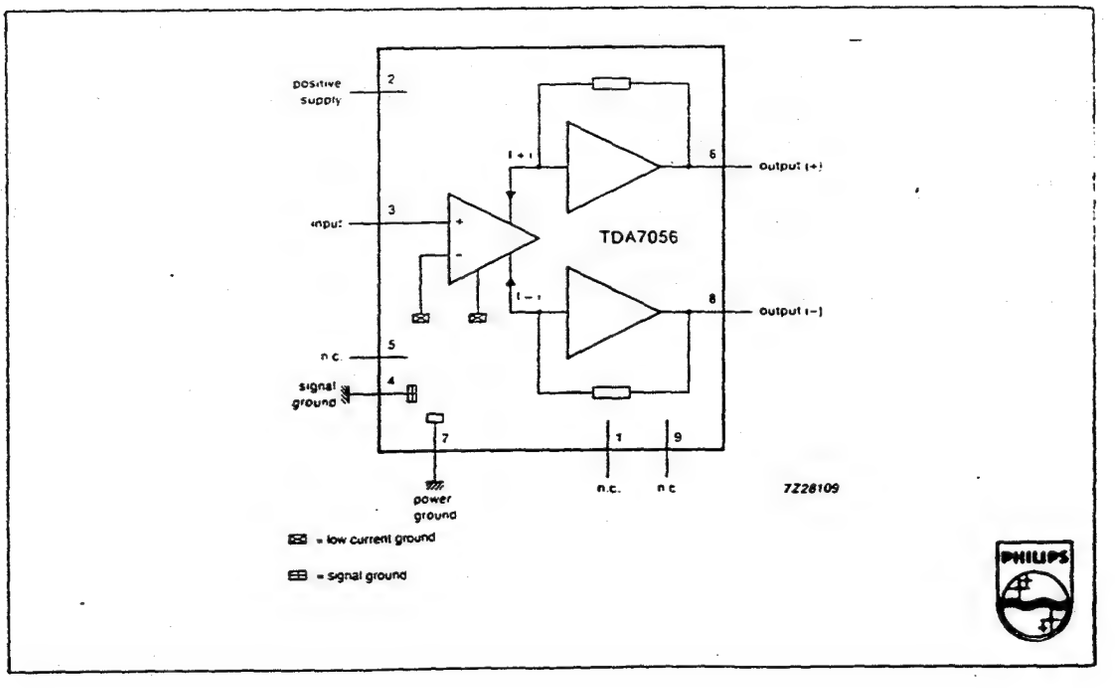
TDA 9820 : Dual channel TV FM intercarrier sound demodulator.



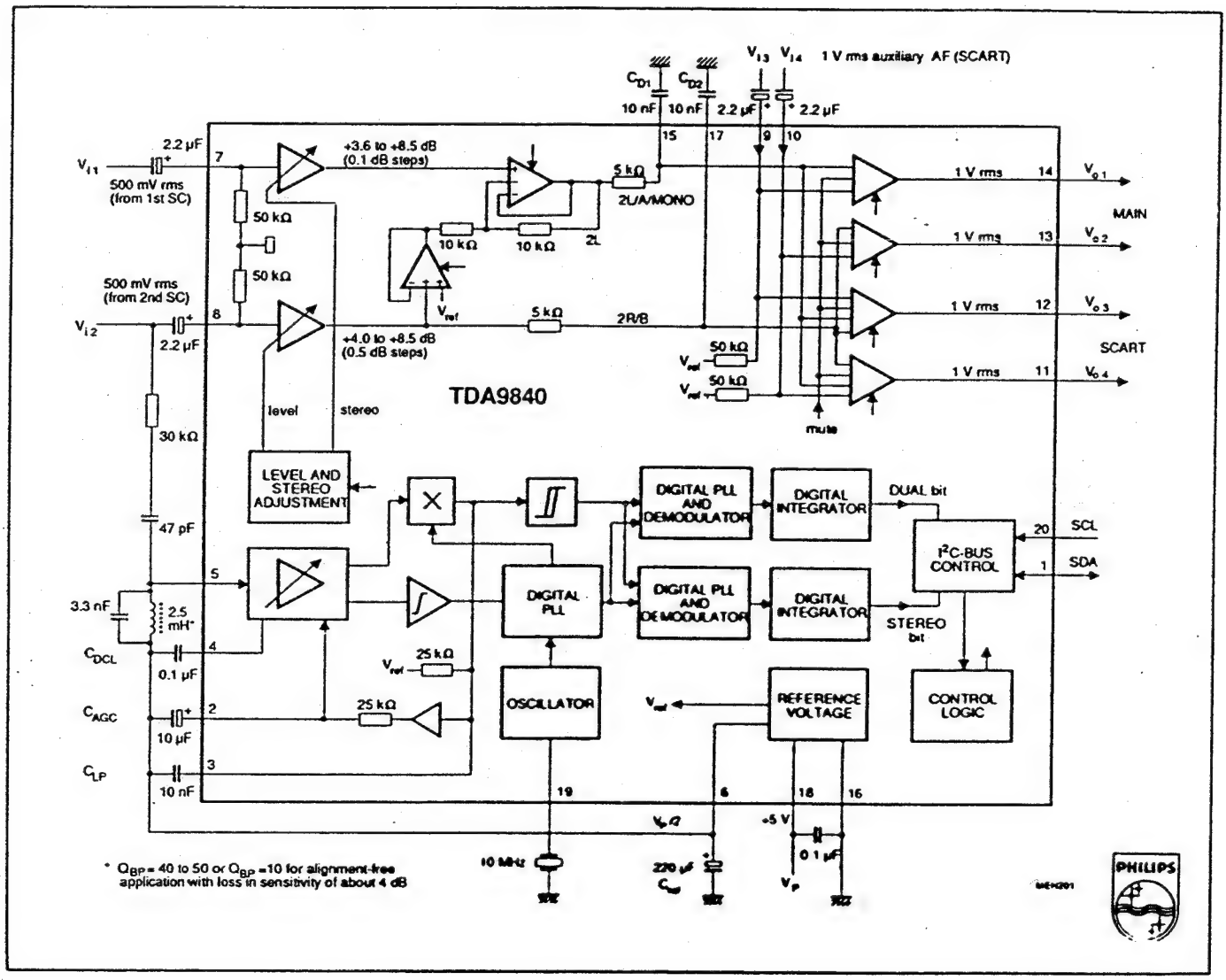
TDA 8425 : HI-FI Stereo audio processor; i2c-bus



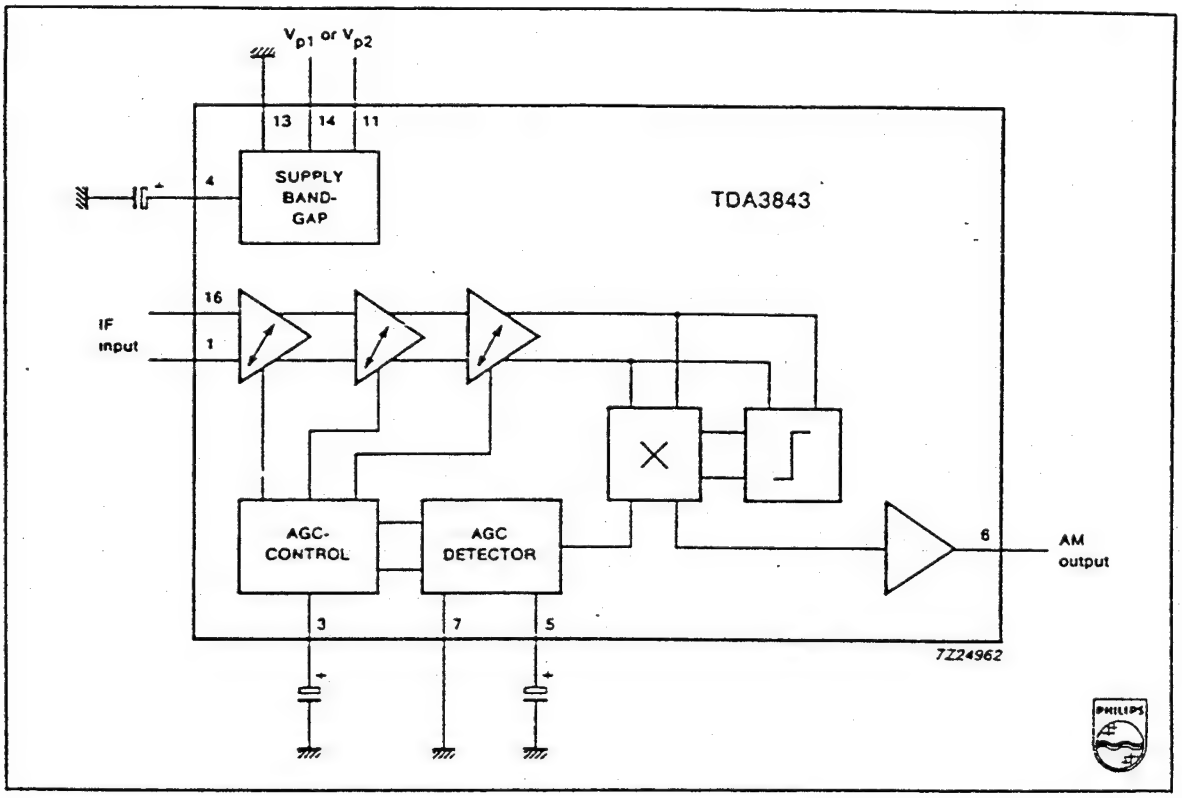
TDA 7056 : 3 Watt mono BTL audio output amplifier.



TDA 9840 : Stereo/dual sound processor with digital identification.



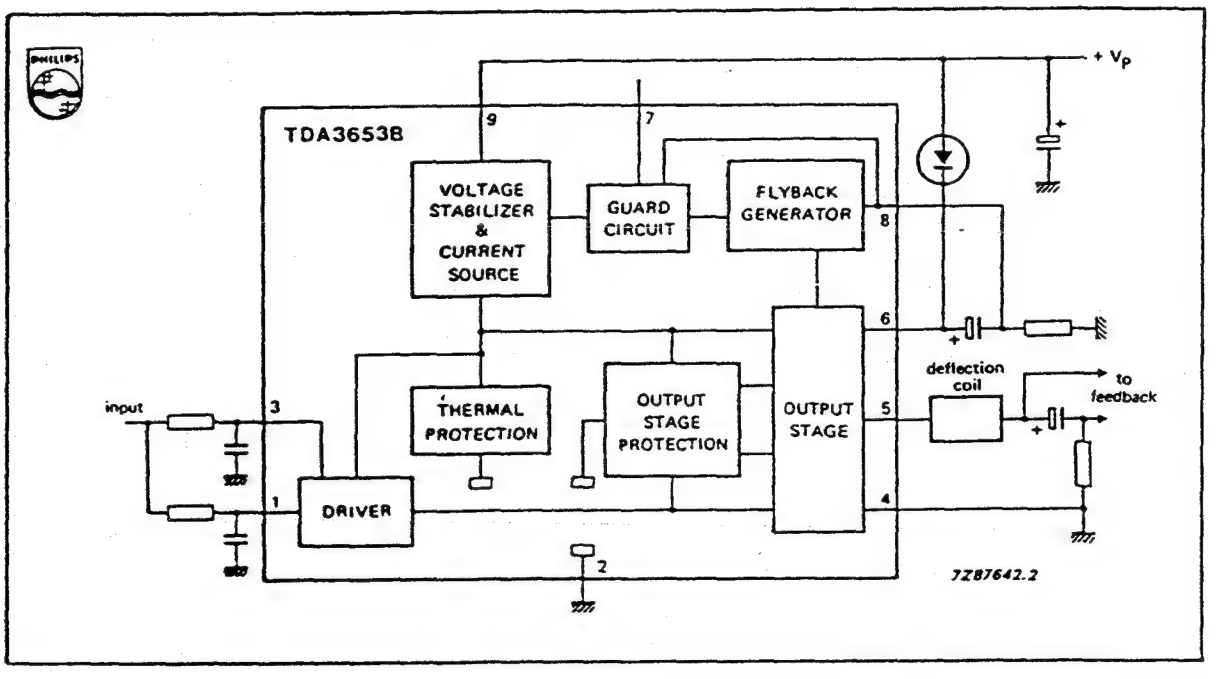
L - L' STANDARD AM AUDIO - TDA 3843



Functional description

TDA 3843 handles AM sound demodulation for standard L and L'.

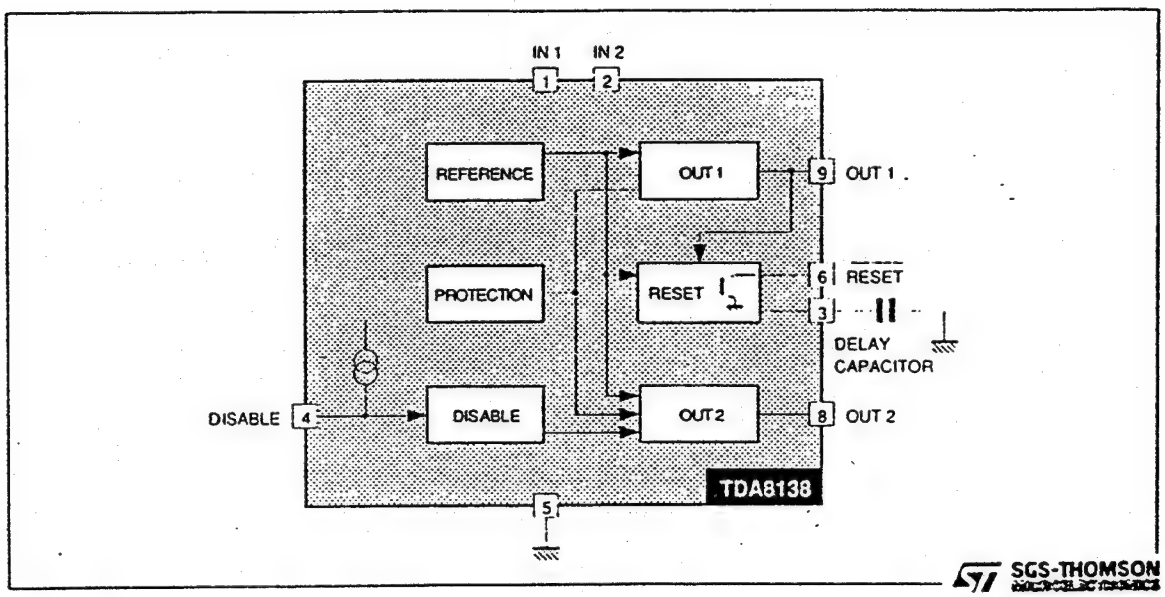
VERTICAL DEFLECTION - TDA 3653B



Functional description

TDA 3653B is a vertical deflection output circuit that drives a vertical deflection system with currents up to about 1.5 a. (usually 90°).

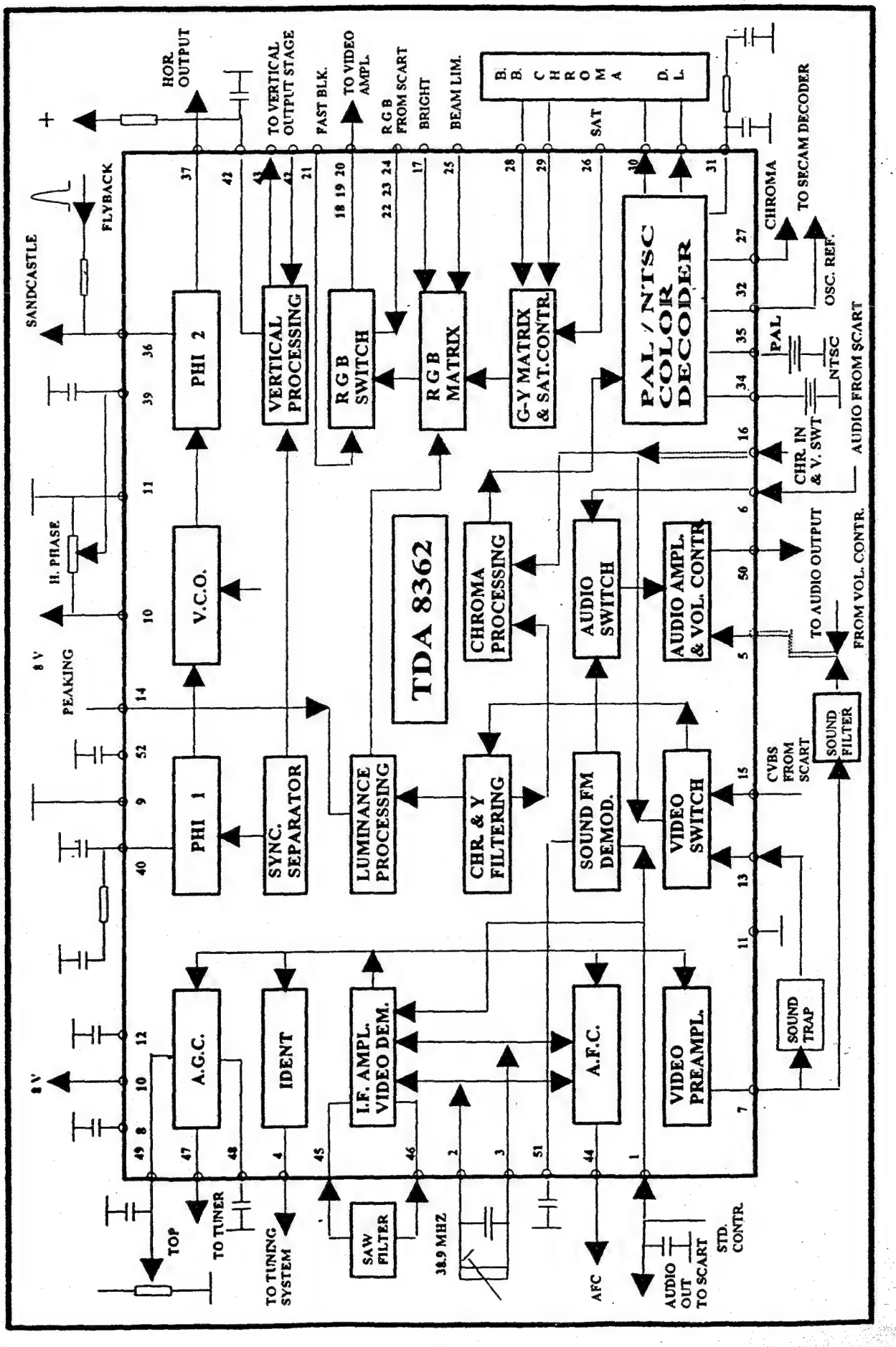
VOLTAGE REGULATOR - TDA 8138



Functional description

TDA 8138 is a dual positive voltage regulator designed to provide an voltage of 5.1 V. and 12 V. for current up to 1 A. Otput 2 may be disabled by a TTL signal . TDA 8138 has thermal protection against short circuits.

MONOCHIP - TDA 8362



MONOCHIP - PIN DESCRIPTION FOR TDA 8362

1 - de-empasise + positive and negative modulation
2 - demodulator input
3 - demodulator input
4 - identification output
5 - IF sound input+ volume control
6 - external sound input
7 - IF video output
8 - digital section decoup.
9 - ground
10 - power supply
11 - ground
12 - tuning decoup.
13 - video input
14 - peaking
15 - external video input
16 - A/V input + chroma input
17 - brightness
18 - Blue output
19 - Green output
20 - Red output
21 - fast blanking input
22 - external Red input
23 - external Green output
24 - external Blue output
25 - contrast
26 - saturation
27 - hue + chroma output
28 - B-Y input
29 - R-Y input
30 - R-Y output
31 - B-Y output
32 - 4.43 Mhz ref. output
33 - phase detector
34 - 3.58 Mhz input
35 - 4.43 Mhz input
36 - Horizontal oscillator start
37 - horizontal drive output
38 - sandcastle/flyback output/input
39 - if filter 2
40 - if filter 1
41 - vertical feedback input
42 - vertical ramp generator
43 - vertical drive output
44 - AFC output
45 - IF input
46 - IF input
47 - AGC output
48 - AGC decoup.
49 - AGC regulation
50 - audio output
51 - sound demod decoup
52 - power-supply decoup.

Differences with respect to TDA 8361

pin 1	solely audio de-emphasise
pin 27	solely hue
pin 32	4.43 Mhz output not connected

Functional description of monochip TDA 8361/2

-IF Amplifier
The amplifier contains three differential stages with typical 60 dB dynamic control. the demodulator's polarity is suited for both positive and negative modulation in the TDA 8362 version (multi-standard PAL, SECAM, L L'), **and for only negative modulation in TDA 8361.**
The AFC circuit is driven by the same reference signal as the video demodulator. The AFC output voltage varies in the range 0/-6 V. . The circuit for identifying the presence of the signal in the transmission channel works independently of the synchronisation circuit : 0 V. no identification and chroma frequency 3.58 MHz.
The AGC system controls the IF amplifier gain is such a way that the amplitude of the output video signal remains constant. The voltage of the AGC capacitor (pin 48) takes into account the IF amplification level. A second loop acts on the tuner to amplify the IF input. The amplification level is regulated externally by potentiometer VR 7.

-Sound circuit
The inter-carrier signal is amplified/limited and demodulated by a PLL (phase locked loop). The PLL circuit automatically locks onto the incoming signal. The volume controls the amplitude of the composite audio signal (pin 5) . (700 mV max).

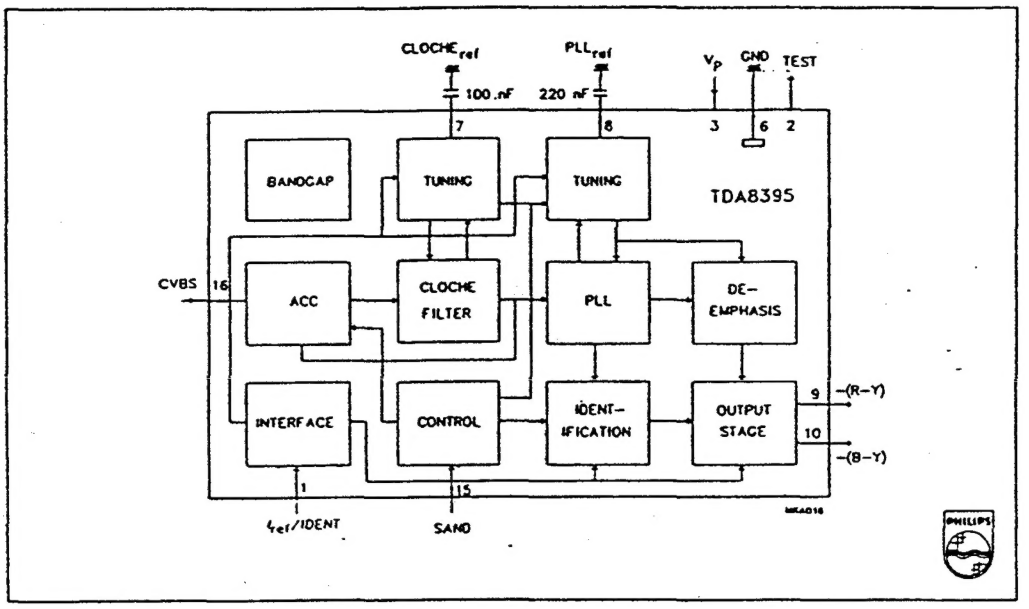
-Horizontal and vertical synchronisation circuit
Upstream of the sync. separator there is an amplifier that raises the synchronism pulse to a fixed level. The separated synchronism pulses are forwarder to the phase and coincidence detectors. The coincidence detector is used to synchronise the line oscillator and to identify the transmission channel. The integrated circuit contains a start-up circuit for the horizontal output (pin 36). The driving pulses for the vertical are generated by a divided circuit. The components for the generation of the vertical ramp are connected to pin 42. The feedback voltage from the vertical amplification stage is connected to pin 41.

-Video filters
The integrated circuit contains a chroma trap and band-pass circuit. The filters are implemented by means of circuits with gyrators. The chroma trap is active when the chroma input pin (pin 16) is connected to ground or directly to the power supply. If pin 16 is held at intermediate voltage, the trap does not operate and therefore S-VHS application is possible. The luminance delay line and the delay for the peaking circuit are implemented by means of circuits with gyrators.

-Colour decoder
The colour decoder contains a quartz-controller oscillator, a killer circuit, and a colour difference demodulator. The 90° phase deviation is effect internally. The decoder adapts automatically to the PAL and NTSC system. For this purpose there are two pins 35 and 34. With TDA 8362, a PAL/SECAM/NTSC automatic multi-standard decoder may be built through the addition of the SECAM TDA 8395 decoder.

-RGB output circuit
The colour difference signals enter the matrices with the luminance signal to obtain the RGB signals. The integrated handles the internal signals and those coming from outside (SCART connector). Brightness and contrast act both on the internal signals and the external ones. Pin 21 of the fast blanking has a second, 4 V, threshold level. When this level is exceeded the RGB output are blocked and the OSD signals are sent directly to the output amplifier. The RGB signals have an amplitude of about 4 V. under nominal operating conditions.

SECAM DECODER - TDA 8395



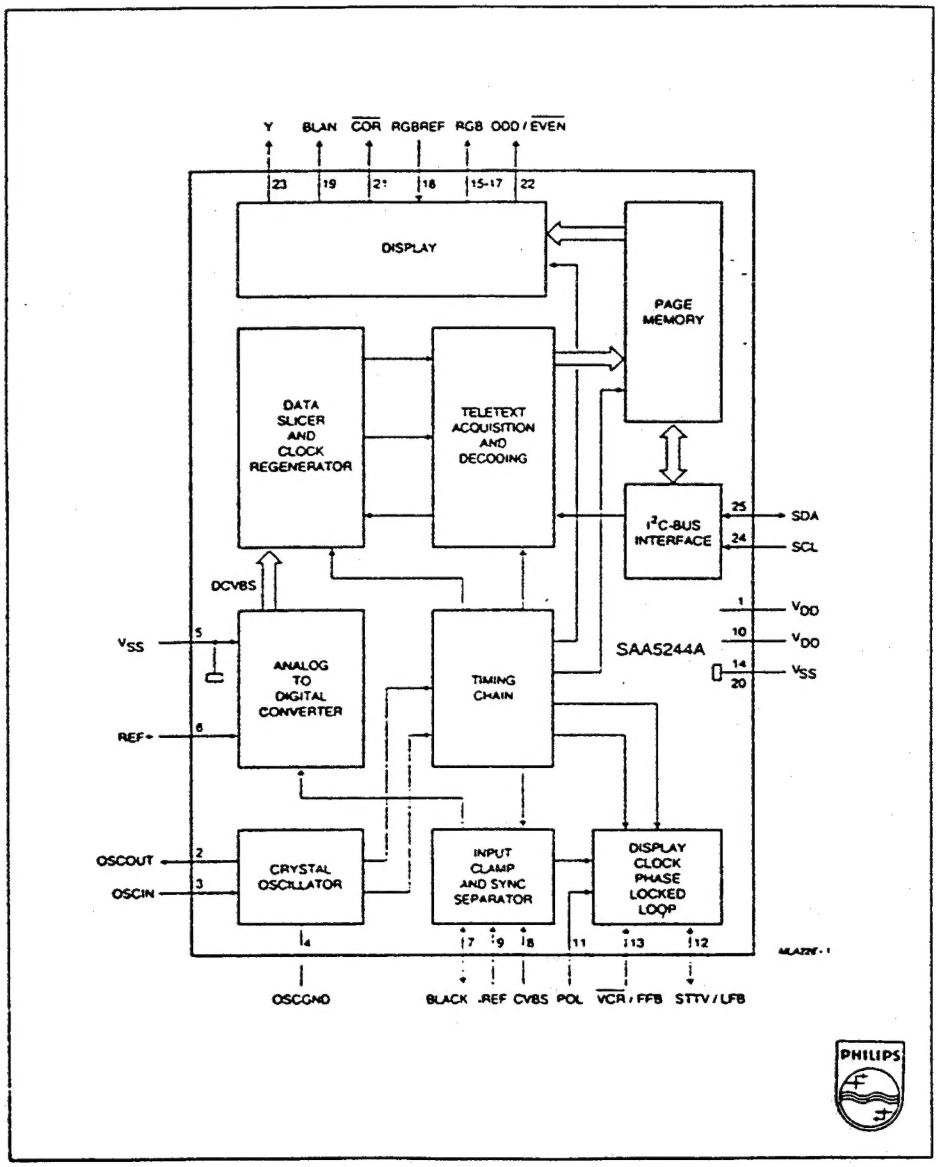
Pin description TDA 8395

1 - identification input
2 - test
3 - power supply
4 - n.c.
5 - n.c.
6 - ground
7 - cloche filter reference
8 - PLL reference
9 - -(R-Y) output
10 - -(B-Y) output
11 - n.c.
12 - n.c.
13 - n.c.
14 - n.c.
15 - sandcastle input
16 - video input

Functional description

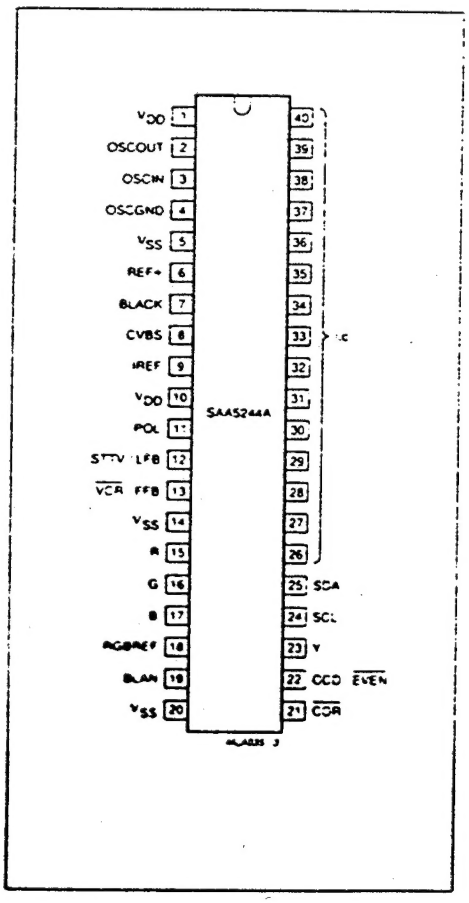
TDA 8395 is a completely integrated SECAM decoder. The integrated circuit incorporates HF and LF filters, a demodulator, and an identification circuit. No regulation is necessary. Requirements include a stable reference frequency for calibration and a sandcastle two-level pulse for the blanking and burst gating functions.

TELETEXT - SAA 5244A



Pin description for TELETEXT SAA 5244A

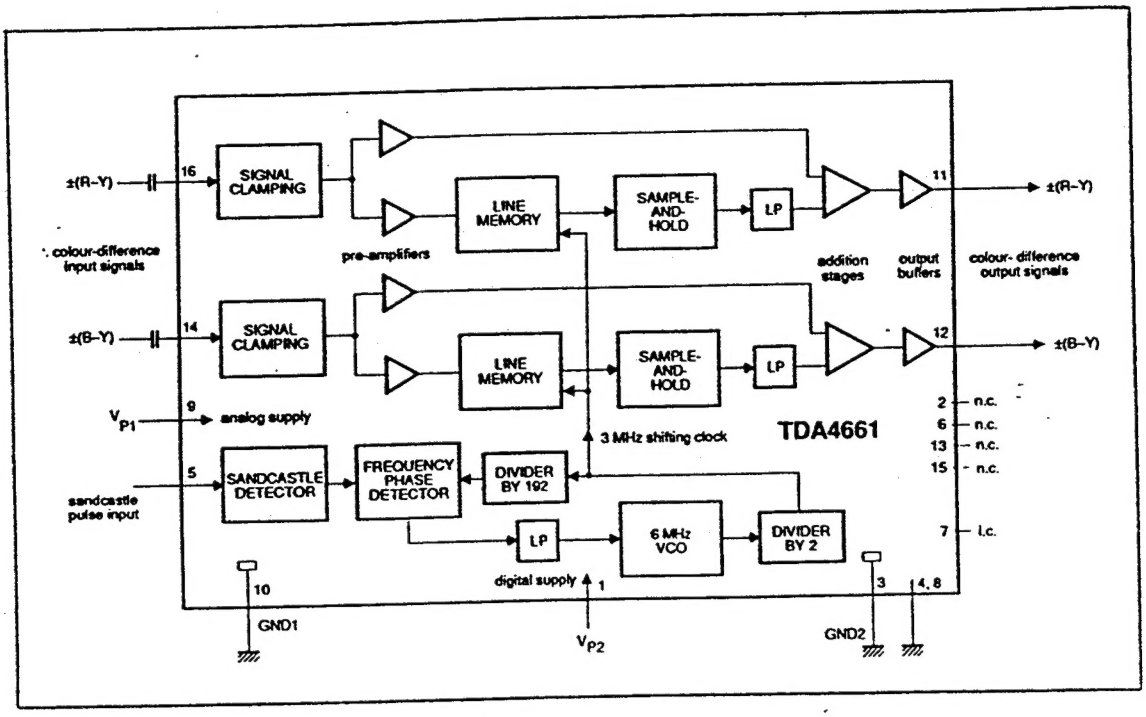
1 - +5V power supply
2 - 27 MHz oscillator output
3 - 27 MHz oscillator input
4 - oscillator ground 0 V.
5 - ground
6 - ADC reference voltage
7 - black level reference input
8 - composite video input
9 - current reference input
10 - +%V power supply
11 - STTV/LFB/FFB selection
12 - sync. input/output
13 - PLL time-contrast input
14 - ground
15 - Red output
16 - Green output
17 - Blue output
18 - dc voltage level on RGB
19 - fast blanking output
20 - ground
21 - contrast-reduction programmable output
22 - de-interlace output
23 - Y output
24 - SCL i2cbus
25 - SDA i2cbus
26/40 - connected internally



Functional description

The integrated circuit is 625-line single-chip teletext decoder. It combines digital and anolog functions and includes a single-page RAM memory.

DELAY LINE - TDA 4661 / TDA 4665



Pinout description

1 - digital section +5V power supply
2 - not connected
3 - digital section ground
4 - internally connected
5 - sancastle input
6 - not connected
7 - internally connected
8 - internally connected
9 - analog section +5V power supply
10 - analog section ground
11 - (R-Y) signal output
12 - (B-Y) signal output
13 - not connected
14 - (B-Y) signal input
15 - not connected
16 - (R-Y) signal input

Functional description

The integrated circuit TDA 4661 is a delay line integrated baseband. It interfaces with decoders with colour difference output signals (R-Y) and (B-Y).